

Manual do Usuário



VX2000

TRI BAND, QUAD MODE
[PCS/GPS/CELLULAR/AMPS]
CDMA MOBILE PHONE

verizon wireless

VX2000 USER GUIDE

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(1.0)

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User Guide



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LIMITED WARRANTY STATEMENT

1. WHAT THIS WARRANTY COVERS:

LG offers you a limited warranty that the enclosed subscriber unit and its enclosed accessories will be free from defects in material and workmanship, according to the following terms and conditions:

- (1) The limited warranty for the unit and enclosed accessories shall be a period of one (1) year from the date of original purchase. The remaining warranty period for the unit being repaired or replaced shall be determined by presentation of the original sales receipt for the purchase of the unit.
- (2) The limited warranty extends only to the original purchaser of the product and is not assignable or transferable to any subsequent purchaser/end user.
- (3) The limited warranty is good only to the original purchaser of the product during the warranty period as long as it is in the U. S., including Alaska, Hawaii, U. S. Territories, and all Canadian Provinces.
- (4) The external housing and cosmetic parts shall be free of major defects at the time of shipment and, therefore, shall not be covered under these limited warranty terms.
- (5) Upon request from LG, the consumer must provide information satisfactory to LG to prove the date of purchase or exchange.
- (6) The customer shall bear the cost of shipping the product to the Customer Service Department of LG. LG shall bear the cost of shipping the product back to the consumer after the completion of service under this limited warranty.

2. WHAT THIS WARRANTY DOES NOT COVER:

- (1) Defects or damage resulting from use of the product in other than its normal and customary manner.
- (2) Defect or damage from abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of LG, including damage caused by shipping, blown fuses, or spills of food or liquid.
- (3) Breakage or damage to antennas unless caused directly by defects in material or workmanship.
- (4) Alleged defects or malfunctions of the product if the Customer Service Department at LG was not notified by the consumer during the applicable limited warranty period.
- (5) Products, which have had the serial number, removed or made illegible.



- (6) This limited warranty is in lieu of all other warranties, express or implied either in fact or by operations of law, statutory or otherwise, including but not limited to any implied warranty of marketability merchantability or fitness for a particular use.
- (7) Damage resulting from use of non-LG approved accessories.
- (8) All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal customer use.
- (9) Products operated outside published maximum ratings.
- (10) Products used or obtained in a rental program.
- (11) Consumables (such as fuses).

3. STATE LAW RIGHTS:

No other express warranty is applicable to this product. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. LG INFOCOMM U.S.A., INC. SHALL NOT BE LIABLE FOR THE LOSS OF THE USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OF, OR INABILITY TO USE, THIS PRODUCT OR FOR ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR MERCHANTABILITY APPLICABLE TO THIS PRODUCT.

Some states do not allow the exclusive of limitation of incidental or consequential damages or limitations on how long an implied warranty lasts; so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

4. HOW TO GET WARRANTY SERVICE:

To obtain warranty service, please call the following telephone number from anywhere in the continental United States:

Tel. 1-800-793-8896
www.lgeservice.com

Please call or write for the location of the LGE authorized service center nearest you and the procedures for obtaining warranty claims.



201 JAMES RECORD ROAD, HUNTSVILLE, AL 35824

Subject

The phone has been designed to operate on the latest digital mobile communication technology, Code Division Multiple Access (CDMA). This CDMA digital technology has greatly enhanced voice clarity and can provide a variety of advanced features. Currently, CDMA mobile communication technology has been commercially used in Cellular and Personal Communication Service (PCS).

The difference between Cellular and PCS is operating frequency. Cellular uses 800Mhz and PCS uses 1.9Ghz. Also, the VX2000 works on Advanced Mobile Phone Service (AMPS). We call it a tri-mode phone. Since the phone operates on Cellular, PCS and AMPS, the call fail rate is less than on a conventional dual-mode or single-mode phone.

CDMA technology adopts DSSS (Direct Sequence Spread Spectrum). DSSS enables the phone to keep communication from being crossed and to use one frequency channel by multiple users in the same specific area, resulting in a 10 fold increase in capacity when compared with the analog mode currently used. Soft/Softer Handoff, Hard Handoff, and Dynamic RF power Control technologies are combined into this phone to reduce call interruptions.

The Cellular and PCS CDMA networks consist of MSO (Mobile Switching Office), BSC (Base Station Controller), BTS (Base station Transmission System), and MS (Mobile Station). The following table lists some major CDMA Standards.



CDMA Standard	Designator	Description
Basic air interface	TIA/EIA/IS-95-A	Protocol between MS and BTS for Cellular & AMPS
	ANSI J-STD-008	Protocol between MS and BTS for PCS
Network	TIA/EIA/IS-634	MAS-BS
	TIA/EIA/IS-651	PCSC-RS
	TIA/EIA/IS-41-C	Intersystem operations
	TIA/EIA/IS-124	Nom-signaling data comm.
Service	TIA/EIA/IS-96-B	Speech CODEC
	TIA/EIA/IS-99	Assign data and fax
	TIA/EIA/IS-637	Short message service
	TIA/EIA/IS-657	Packet data
Performance	TIA/EIA/IS-97	Cellular base station
	TIA/EIA/IS-98	Cellular mobile station
	ANSI J-STD-018	PCS personal station
	ANSI J-STD-019	PCS base station
	TIA/EIA/IS-125	Speech CODEC

※ TSB -74: Protocol between an IS-95A system and ANSI J-STD-008

1xRTT system receives subscribers in wireless section twice as much as IS-95. Its battery life is twice as long as IS-95. High-speed data transmission is also possible.

Introduction

Highlights

Congratulations! Your new mobile phone will change the way you communicate. It is a compact, lightweight personal communication system with added features for the person on the go. Our advanced digital mobile communication technology features the following:

- Large, easy-to-read, 6-line, backlit LCD with status icons.
- Paging, messaging, voice mail, and caller ID.
- 16-key keypad and 4-way navigation button.
- Long battery standby and talk time.
- Menu-driven interface with prompts for easy operation and configuration.
- Any key answer, auto answer, auto retry, and one touch dialing and speed dialing with 199 memory locations.
- Multilingual (English, Spanish and French menu languages are available).
- Optional accessories. (see pages 120~121)

Important Information

This user guide provides important information on the use and operation of your phone. Please read all the information carefully prior to using the phone for best performance and to prevent any damage to or misuse of the phone. Any unapproved change or modification will void your warranty.

Check Accessories

Your mobile phone comes with the following accessories, an AC adapter and a rechargeable battery. Please verify your accessories are included.

Before You Start Safety Instructions

WARNING! To reduce the possibility of electric shock, do not expose your phone to high humidity areas, such as the bathroom, swimming pool, etc.

Always store your phone away from heat. Never store your phone in settings that may expose it to temperatures less than 32° F or greater than 104° F, such as outside during a snowstorm or in your car on a hot day. Exposure to excessive cold or heat will result in malfunction, damage and/or catastrophic failure.

Use caution when using your phone near other electronic devices. RF emissions from your mobile phone may affect nearby inadequately shielded electronic equipment. You should consult with manufacturers of any personal medical devices such as pacemakers and hearing aides to determine if they are susceptible to interference from your mobile phone. Turn off your phone in a medical facility or at a gas station. Never place your phone in a microwave oven as this will cause the battery to explode.

IMPORTANT! Please read the TIA SAFETY INFORMATION on page 123 before using your phone.



FCC RF Exposure Information

WARNING! Read this information before operating the phone.

In August 1996, the Federal Communications Commission (FCC) of the United States, with its action in Report and Order FCC 96-326, adopted an updated safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies.

The design of this phone complies with the FCC guidelines and these international standards.

CAUTION

Use only the supplied, approved antenna. Use of unauthorized antennas or modifications could impair call quality, damage the phone, void your warranty and/or result in violation of FCC regulations.

Do not use the phone with a damaged antenna. If the damaged antenna comes into contact with the skin, a minor burn may result. Contact your local dealer for a replacement antenna.

Body-worn Operation

This device was tested for typical body-worn operations with the back of the phone kept 0.79 inches (2_{cm}) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.79 inches (2_{cm}) must be maintained between the user's body and the back of the phone, including the antenna, whether extended or retracted. Third-party belt-clips, holsters, and similar accessories containing metallic components should not be used. Body-worn accessories that cannot maintain 0.79 inches (2_{cm}) separation distance between the user's body and the back of the phone, and have not been tested for typical body-worn operations may not comply with FCC RF exposure limits and should be avoided.

Vehicle Mounted External Antenna (optional, if available)

A minimum separation distance of 7.9 inches (20_{cm}) must be maintained between the user/bystander and the vehicle mounted external antenna to satisfy FCC RF exposure requirements.

For more information about RF exposure, visit the FCC website at www.fcc.gov

FCC Part 15 Class B Compliance

This device and its accessories comply with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device and its accessories may not cause harmful interference, and (2) this device and its accessories must accept any interference received, including interference that causes undesired operation.

Cautions for Battery

- ▶ Do not disassemble.
- ▶ Do not short-circuit.
- ▶ Do not expose to high temperature : 60° C (140° F)
- ▶ Do not incinerate.

Battery Disposal

- ▶ Please dispose of your battery properly or bring to your local wireless carrier for recycling.
- ▶ Do not dispose in fire or with hazardous or flammable materials.

Adapter (CHARGER) Cautions

- ▶ Using the wrong battery charger could damage your phone and void your warranty.
- ▶ The charger or adapter is intended for indoor use only.

Do not expose the battery charger or adapter to direct sunlight or use it in places with high humidity, such as the bathroom.

Chapter 1. Getting Started

Cautions

- ▶ Using the phone near receiving equipment (i.e., TV or radio) may cause interference.
- ▶ Keep your phone in a safe place when not in use.
- ▶ Use only the batteries, antennas and chargers provided by LG. Using unauthorized accessories could void your warranty.
- ▶ Only authorized personnel should service the phone and its accessories. Faulty installation or service may result in accidents and consequently void the warranty.
- ▶ Do not hold the antenna while the phone is in use.
- ▶ Do not use the phone in designated **no cellular phone use** areas.
- ▶ Do not expose the phone to high temperature or humidity.
- ▶ Avoid getting your phone wet. If the phone gets wet, turn the power off immediately and remove the battery. If the phone is non-functional, return it to the dealer for service.
- ▶ Avoid shock or impact on the phone.

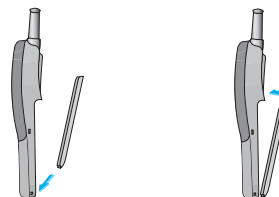
Using the Battery Pack

Charge the battery fully before the initial use of the phone.

The phone comes with a rechargeable battery. Keep the battery charged while not in use in order to maximize talk and standby time when using the phone.

Installing the Battery

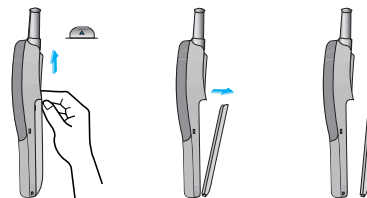
To install the battery, insert the bottom of the battery into the opening on the back of the phone. Then, push the battery down until the latch clicks.



Removing the Battery

Turn the power off. (If power is on, a loss of stored numbers and messages may occur.)

By lifting removal button the battery will become detached.



Battery Charge Level

The battery charge level is shown at the top right of the LCD screen.



When the battery charge level becomes low, the battery sensor will alert you in three separate ways; by sounding an audible tone, blinking the battery icon outline, and displaying **LOW BATTERY WARNING!** If the battery charge level becomes exceedingly low, the phone will automatically switch off and any function in progress will not be saved.

- ※ If the battery runs out during a call, the call may terminate, and the phone may turn off automatically.

Using the AC Adaptor (AD-B434)

AC Adaptor (SR-0550U) has a slot for recharging batteries. The slot accommodates phone and battery pack for charging.

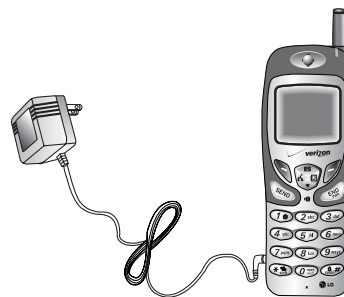
Warning! Use only the AC Adaptor (SR-0550U) for recharging batteries. The adapter accommodates both the phone and the battery pack. Using the wrong adaptor may cause damage to your phone or battery.

1. Plug the adaptor into a wall outlet.

- ▶ The phone must be charged from a 110/120 V power source only.

If completely discharged, the battery will take approximately 3 hours to recharge.

- ※ When the phone is connected to the adapter without the battery, the phone will work normally, but the sign "Battery Required" will be displayed on the screen.



WARNING!

When charging the battery, do not use the Adaptor and the Travel Charger at the same time since it may cause incomplete charging of the battery.

Caring for the Battery

1. To recharge the battery, you do not need to wait until the battery is completely discharged.
2. Use only LG batteries and adaptors specific to your model of phone. LG adaptors are designed to maximize the battery life.
3. Do not disassemble or short-circuit the battery.
4. Keep the metal contacts of the battery clean.
5. Replace the battery when it no longer provides acceptable performance. The battery may be recharged several hundred times before it needs replacing.
6. Recharge the battery if it has not been used for a long time to maximize battery life.
7. Do not expose the battery adaptor to direct sunlight or use it in areas of high humidity, such as the bathroom.
8. Do not leave the battery in hot or cold places, this may deteriorate battery performance.
9. Your battery life may vary by location, use patterns, etc.
10. Long backlight settings, searching for service, MiniBrowser, data connectivity and synchronization all may affect battery life, talk and standby time.

Phone Components

The following shows key components of your mobile phone.




Phone Overview


1. Headset Jack

2. Earpiece


3. Message Key

4. Voice Memo Key In manual mode, set Voice Memo by pressing and holding the  key about 3 seconds.

5. SEND Allows a user to place or answer calls.

6. Speaker Mode Key In standby mode, set speaker mode by pressing and holding the  key about 3 seconds.

7. Manner/Silent Mode Key


- In standby mode, set the manner mode (vibration) by pressing and holding the  key about 3 seconds.

8. Antenna

9. Lamp The red light flashes when you turn the power on and when you have incoming calls and messages.

10. LCD screen Displays messages and indicator icons.





11. Soft Keys

- Soft Key 1 

Used to display the function setting menu.

- Soft Key 2 

Press this key once in a menu, to go back one level.


12. Navigation Key This Navigation key allows quick access to  text and voice mail notification messages.  Speaker Mode,  Voice dialing,  Outgoing Call list.

13. Outgoing Call List Key

14. END/PWR Used to turn power on/off and to end a call. Using this key, you can return to the main menu display screen.

15. Alphanumeric Keypad Enables you to enter numbers and characters and to choose menu items.














16. Keypad Lock Key

- In standby mode, set the lock function by pressing and holding the  key about 3 seconds.

17. Microphone

Onscreen Icons

The phone screen displays several onscreen icons which appear when the phone is powered on.

-  Displays the strength of the signal received by the phone and current signal strength is indicated by the number of bars displayed on the screen.
-  No service
The phone is not receiving a system signal.
-  In use
A call is in progress.
* No icon indicates the phone is in standby mode.
-  Digital indicator
Digital service is available.
-  Analog indicator
Analog service is available.
-  Indicates that a text message or voice mail has been received.
-  Roaming
The phone is outside of its home service area.
-  In Manner (vibration) mode
-  In Silent mode
-  Location On mode
-  E911 Only mode
-  In Speaker mode
-  Charge level
Indicates battery charge level.

Entering Information Using T9 Text Input

You can edit the Banner, Scheduler, Short Message and Phone Book using T9 Text Input.


Changing Letter Case

There are three options for selecting letter cases:

Initial Cap (T9En/Abc)

Only the first letter is capitalized.

Caps Lock (T9EN/ABC)

Press  to change letter case to Caps Lock. All subsequent letters are capitalized.


















Lowercase (T9en/abc)

Press  again to change letter case to lowercase.

Examples Using T9 Text Input


Typing In T9 Mode

To use T9 mode while in a new message, follow the these steps:



1. Press: Soft Key 1  and then select T9En with .
2. Press:    .
3. Press:  to complete the word and add a space.
4. Press:          .
5. Display: Call the office.



Key Functions


Soft Key 1 Option: Press to scroll and select a mode through menus.


- You can scroll through the modes using the Navigation Key  in the following order: Save → T9En or Find T9En or Send → Save → Back → Option → Canned

- SHIFT Key (): Used to change the letter case.

 ~  (Type Text): In T9 mode, press one key per letter to enter text.

 ~  (Type Numbers): In 123 (Numbers) mode, press once to enter numbers.

 (Next): In T9 mode, press to display other matching words.

 (Punctuation): In T9 mode, press to insert punctuation in a word and complete a sentence.

 (Space): Press to complete a word or insert a space.

Soft Key 2 Clear: Press to delete a single space or character. Press and hold to delete entire words.

Input mode

T9 Text Input provides five modes for entering text, numbers, special characters, and punctuation.


ABC (Multi-tap) Mode

Use ABC mode to add words to the T9 database. The default is ABC mode.

T9En (T9) Mode


Type text using one keystroke per letter.

123 (Numbers) Mode

Type numbers using one keystroke per number. To change to 123 mode in a text entry field, press Navigation Key  until 123 mode is displayed.

SYMBOL Mode

Insert special characters and punctuation.


You may use any of the 33 special characters. When the cursor is located where you want the special character, switch to Symbol mode. Press the Navigation Key  to cycle through and select from the following characters:








T9Help Mode

Display T9 Help Text.

Using the NEXT Key











After you have finished typing a word, if the word displayed is not the word you want, press  to display additional choices.



For example, follow these steps :

1. Press:    .
2. Display: Good
3. Press: .
4. Display: Home, Gone, Hood.....

Adding Words to the T9 Database

If a word is not in the T9 database, add it by using **ABC (Multi-tap) mode** text entry. The word is automatically added to the T9 database when you return to T9 mode. For example, follow these steps:

1. Press: Soft Key 1  to change letter case to ABC (multi-tap) mode.
2. Press:     .
3. Display: lmt
4. Press: Soft Key 1  to change letter case to T9 mode and then the word lmt will be added to the T9 database
5. Press: Soft Key 2 **Clear** erase the existing word.
6. Press:   .
7. Display: got







8. Press:  .

9. Display: lmt

Examples Using ABC (Multi-tap) Text Input

Typing In ABC (Multi-tap) Mode.


To type a new message, follow these steps:

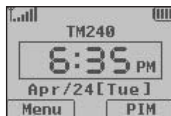
1. Press: Soft Key 1  to change letter case to ABC mode
2. Press:  to change to **ABC** Caps Lock mode
3. Press:    .
4. Display: LG

Chapter 2. Basic Functions

Turning the Phone On and Off


Turning the Phone On

1. Install a charged battery pack or connect the phone to an external power source such as the cigarette lighter adapter or car kit.
2. Press  for a few seconds until the red light in the top of the phone flashes.
 - ▶ Fully extend the antenna for the best performance.



NOTE Like any other radio device, avoid any unnecessary contact with the antenna while your phone is on.




Turning the Phone Off

1. Press and hold  until display screen turns off, then release the key.
2. Protect the antenna by pushing it back into the phone, if extended.

Making a Call



When you make a call, follow these simple steps:



1. Make sure the phone is turned on.
 - ▶ If not, press .
2. Enter the phone number, with area code (if needed).
3. Press .
4. Press  to end the call.

This phone has been restricted If this message displays on your screen, then outgoing calls are in restricted mode. You can only dial phone numbers saved in Emergency or Phone Book list.

- ▶ If you want to turn off this function, take the following step.

Menu →  **Security** → Enter Lock Code
→  **Restrict** → **No** → **Ok**

When one-touch dialing is enabled, type in the phone book entry number and hold the last digit until the call is made.


NOTE Phone number and entry name appear on the display when you type in the entry number and hold the last digit.

Correcting Dialing Mistakes

If you make mistakes while dialing a number, press Soft Key 2 **Clear** once to erase the last digit entered or hold down Soft Key 2 **Clear** for at least two seconds to delete all digits, or simply press Soft Key 2 **Back** to exit the dialing state.

Receiving Calls

1. When the phone rings, press any key (except ) to answer.

- ▶ If you press the  while the phone is ringing, the ringing or vibration is muted for that call.


2. Press  twice to end the call.



Using Manner & Keypad Lock Mode

Manner Mode (Quick)


Use Manner Mode in a public place.

1. In standby mode, activate Manner Mode quickly by pressing the  (for 3 seconds) instead of using the Menu function.



- ▶ When Manner Mode is set, there are no tones from the keys and the phone vibrates instead of ringing.

Silent Mode (Quick)

1. In manner mode, activate Silent Mode quickly by pressing the  (for 3 seconds).




- ▶ When Silent Mode is set, there are no tones from the keys and lamp blinks instead of ringing.

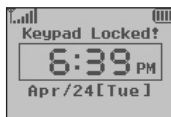
NOTE To cancel Silent Mode, press  again until **Normal Mode Entered!** is displayed.



NOTE To change to a different mode press → manner mode → silent mode.

Keypad Lock Mode (Quick)

To prevent unintentional dialing.

1. To activate keypad lock mode, from standby mode, press the . (for 3 seconds)







- ▶ When Keypad Lock Mode is set, any keys other than ,  will show **Keypad Locked!** on the LCD screen.

NOTE

To release the Keypad Lock Mode, Press the . (for 3 seconds)




When Keypad Lock Mode is released, **Keypad Unlocked!** is displayed on the LCD screen.

Speaker Mode

1. Press and hold  for 3 seconds from the Standby mode to set Speaker Mode. Volume can be adjusted during a call by pressing .
2. Press and hold  for 3 seconds during Talk mode to set Speaker Mode. Volume can be adjusted during a call by pressing .
3. When the call ends, Speaker Mode is automatically released.

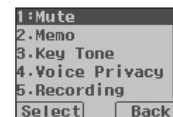
Call Waiting



Your cellular service may offer a call waiting function. While a call is in progress, you may hear two beeps indicating another incoming call. When call waiting is enabled, you may put the active call on hold while you answer the other incoming call. Check with your cellular service provider for information about this function.

1. Press  to receive a waiting call.
2. Press  again to switch between calls.
3. Press  to end one of the calls.

Mute

The mute function prevents the other party from hearing your voice, but allows you to hear the other party.



1. Press Soft Key 1 **Menu** and  during a call.
2. To cancel Mute, press Soft Key 1 **Menu** and  again.

Redialing Calls

Redialing a number from the call history list.

- ▶ You can redial any number in your call history list. The last 30 numbers are stored in Outgoing, Incoming and Missed calls lists. (See Call History on page 83.)

Power Save Mode

When the phone is in an area without service for about 15 minutes, it stops searching for service and enters into Power Save Mode. When your phone activates this feature, **Power Save** is displayed on the screen. The phone automatically checks for service periodically or you can check manually by pressing any key.

Caller ID

Caller ID lets you know who is calling by displaying the number of the person calling when your phone rings. If the caller's name and number are already stored in your phone book, the corresponding name appears with the number.

You should check with your service provider to ensure they offer this feature.

Phone Book Features

You can store up to 199 entries in your phone book with easy access to your most frequently dialed phone numbers.

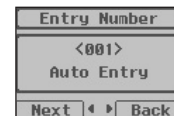
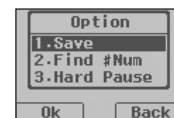
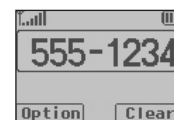
Personal Phone Book Memory



The phone has 199 personal phone book memory locations where you can store up to 5 phone numbers with 32 digit capacity for each phone number.

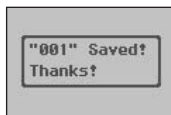
Saving Numbers in Your Personal Phone Book

Memory locations 1 through 9 should be used for one-touch dialing for your most frequently used phone numbers.





1. Input the phone number that you want to save (up to 32 digits).
2. Press Soft Key 1 **Option**, the sub-menu appears.
3. Select **Save** on the sub-menu.
4. The phone will prompt you for the memory location where the number will be saved. Press Soft Key 1 **Next** to automatically store the number in the first available memory location, or enter a specific three-digit memory location and then press Soft Key 1 **Next** to store the number.



5. Select your desired label types **Home, Office, Mobile, Pager, Data/Fax** by using .
6. Enter a name for the phone number (up to 16 characters). If you do not want to enter a name, go to the next step.
7. You may select the desired ID ring type, secret and .
8. Press Soft Key 1 **Save**.
A confirmation prompt **Saved! Thanks!** displays on the phone.



Saving Additional Phone Numbers or an E-mail Address in Your Personal Phone Book

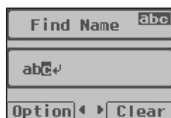
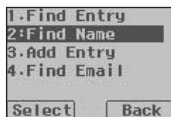
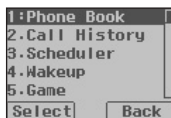
1. From the initial screen press Soft Key 2 **PIM**, the menu appears.
2. Select **Phone Book** on the menu.
3. Select **Find Entry** on the menu.
4. Enter the three-digit memory location number.
5. Press  twice to highlight the label type.
6. Select the desired unused label type by using .
7. Press  and enter the additional phone number (or e-mail address as appropriate).
8. Press Soft Key 1 **Select**, the sub-menu appears.
9. Select **Save** in the sub-menu.
10. Select the desired Default Number by using  and press Soft Key 1 **Select**.
 - ▶ If do not know the three-digit memory location number select Find Name and enter the name of the entry you want to append.

NOTE Caller ID will display the entry name and the current phone number. However, when viewing the phone book entry, only the default number is displayed.

Retrieving Numbers

Retrieving by Name Search

1. Press Soft Key 2 **PIM**.
2. Press **1** **Phone Book**.
3. Press **2** **Find Name**.
4. Enter the character(s) that you want to search for (such as the first letters of the name.)
5. Press Soft Key 1 **Option** and select **Find**.
6. You will see a list of matches.
7. Press Soft Key 1 **View** to see specifics in that memory location, or press **SEND** to place the call.




Retrieving Phone Numbers Using Memory Location Number.

From the standby display, press Soft Key 2 **PIM** and then select Phone Book, Find Entry. Enter the location number to be retrieved.

To search for stored phone numbers, from the standby display enter a specific number(s) and a list containing that number(s) appears. If you want to make a call, select the number you want by using **END**, then press **SEND**.

How do I add phone numbers, names, and an e-mail address on a previously saved number in my Personal Phone Book (See pages 79~82)

Making a call from Your Phone Book

You can place a call from any memory location either by using speed dialing or by entering the phone number and pressing .

One-Touch Speed Dialing: This feature enables you to store your nine most frequently used numbers in your phone book in memory locations (1 through 9)

- ▶ For locations 1 through 9, you can use one-touch dialing (if enabled, see **One-Touch** on page 56) by pressing and holding the corresponding key to the memory location to be dialed.

OR

- ▶ Press a digit, then press .

Two-Touch Speed Dialing: This feature enables you to dial numbers in your phone book through two keys (for locations 10 to 99.)

- 1) Press the first digit.
- 2) Press and hold the key of the second digit.


OR

- 1) Press the first and second digit, then press .


Three-Touch Speed Dialing: This feature enables you to dial numbers in your phone book by pressing three keys (for locations 100 to 199.)

- 1) Press the first and second digits.
- 2) Press and hold the key of the third digit.


OR

- 1) Press the first, second, and third digits, then press .

Dialing from a Memory List


- 1) From a memory list, press the scroll keys to go to the memory location you want.
- 2) Press .

Dialing from a Memory Location



- ▶ While viewing a memory location, press  to call.

Speed Dialing (see *Making a call from Your Phone Book* on page 37.)

Speed dialing is a convenient feature, which allows you to make phone calls quickly and easily. Your phone recalls the phone number from your personal directory, displays it briefly and then dials it.

1. Enter memory location number 001 to 199 .
2. Press  .

Advanced Phone Book Features

1. **Pause Feature:** When you call automated systems (such as voice mail or credit billing numbers), you often have to enter a series of numbers. Instead of entering these numbers by hand, you can store the numbers in your phone book separated by special characters (eg. , ) called pauses.

There are two different pauses that you can use when storing a number:


▶ **Hard Pause (H)**

The phone will stop dialing until you press Soft Key 1 **Resume** to advance to the next number.

▶ **Time Pause (T)**

The phone will wait two seconds before sending the next string of digits.

2. Storing a number with pauses
 - 1) Enter the phone number.
 - 2) Press Soft Key 1 **Option** .
 - 3) Select one of the following:
 - ▶ Press **Hard Pause**.
 - ▶ Press **Time Pause**.
 - 4) Enter additional number(s) (e.g., pin number or credit card number).

- 5) Press Soft Key 1 **Option** and press Soft Key 1 **Ok**, the sub-menu will appear. Select **Save** on the sub-menu to save this number with pauses.
- 6) The phone will prompt you for the memory location where the number will be saved. Press Soft Key 1 **Next** to automatically store the number in the first available memory location. You also have the option to enter a specific three-digit memory location number.
- 7) Select your desired label type **Home, Office, Mobile, Pager, Data / Fax** or **E-mail** using .
- 8) Enter a name for the phone number (up to 16 characters.) If you do not want to enter a name, go to the next step.
- 9) Press Soft Key 1 **Save**. A confirmation message **Saved! Thanks!** displays on the phone.

3. Dynamic Search


► Number Dynamic Search

Compares entered numbers against the entries in the phone book and then displays a matching list in descending order. You can then call a number from the list.




► Name Dynamic Search

Compares entered letters against the entries in the phone book and then displays a matching list in descending order. You can then call a number from the list.

4. Voice Dialing



If a Voice tag has been saved in the Phone Book, pressing  shortly from the Wait mode and saying the Voice tag will automatically dial the number corresponding to that Voice tag.

5. Voice Memo

Allows immediate access to Voice Memo by pressing  for 2 seconds from the Manual mode for the Menu shown in **MENU**  , .

Chapter 3. Menu Features




General Guidelines to Accessing Menu and Settings

1. Press Soft Key 1 **Menu**. Eight menu items will appear on the display screen.
2. Press  to go through the list of menu features.
3. Highlight the menu item that you want and press Soft Key 1 **Select**. The sub-menu list will appear on the screen.
4. Highlight the sub-menu item that you want and press Soft Key 1 **Select**.
5. Adjust your settings using the .
6. Press Soft Key 1 **Ok** to save the settings or Soft Key 2 **Back** to cancel without saving.

Sound (Menu)

Ring Sound (Menu ,)

To select a Ring Sound.

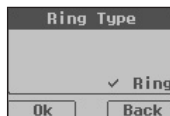
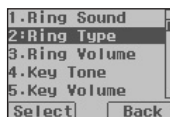
1. Press Soft Key 1 **Menu**.
2. Press  **Sound**.
3. Press  **Ring Sound**.
4. Press  until you find the sound you desire.
5. Then press Soft Key 1 **Ok** to save the ring sound.



Ring Type (Menu 1, 2)

To select a Ring Type.

1. Press Soft Key 1 **Menu**.
2. Press 1 **Sound**.
3. Press 2 **Ring Type**.
4. Select one of six ring types **Ring**, **Vibrate**, **Vib1+Ring**, **Vib2 +Ring**, **Vib3+Ring** and **Lamp** with .



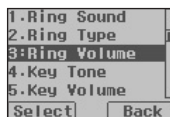
NOTE The number after Vib means the number of vibrations.

5. Then press Soft Key 1 **Ok** to save the ring type.

Ring Volume (Menu 1, 3)

To select a Ring Volume.

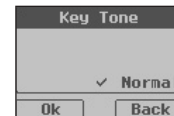
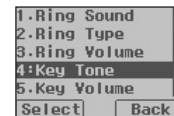
1. Press Soft Key 1 **Menu**.
2. Press 1 **Sound**.
3. Press 3 **Ring Volume**.
4. Adjust the ringer volume or vibration level with .
5. Then press Soft Key 1 **Ok** to save the ring volume.



Key Tone (Menu 1, 4)

To set Key Tone length and touch tone playback speed.

1. Press Soft Key 1 **Menu**.
2. Press 1 **Sound**.
3. Press 4 **Key Tone**.
4. Set **Normal/Long** with and then press Soft Key 1 **Ok**.



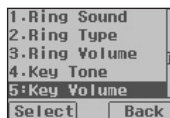
- ▶ **Normal** Sends out a tone for a fixed period of time even if you keep the key pressed.
- ▶ **Long** Sends out a continuous tone for as long as you keep the key pressed.

NOTE Dual-Tone Multi Frequency (DTMF) Signaling by the simultaneous transmission of two tones, one from a group of low frequencies and another from a group of high frequencies. Each group of frequencies consists of four frequencies. Setting Key Beep length for a long time will extend the DTMF tone. Press **Menu**, then press 4 **Key Tone** Using then select Long. Press Soft Key 1 **Ok**.

Key Volume (Menu 1, 5)

To adjust the key beep volume.

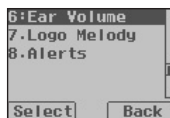
1. Press Soft Key 1 Menu.
2. Press 1 Sound.
3. Press 5 Key Volume.
4. Adjust the key volume with .
5. Then press Soft Key 1 Ok to save the key volume.



Ear Volume (Menu 1, 6)

To adjust the earpiece volume.

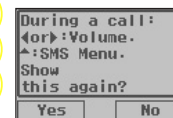
1. Press Soft Key 1 Menu.
2. Press 1 Sound.
3. Press 6 Ear Volume.
4. Adjust the earpiece volume with .
5. Then press Soft Key 1 Ok to save the earpiece volume.



NOTE During a call, you can adjust the volume by using key.

NOTE When you press key during a call, following screen is displayed.

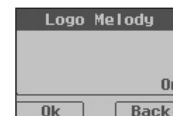
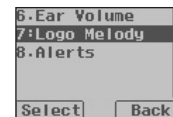
If you select **Yes**, this screen is displayed every time you press key.
If you select **No** the screen does not appear.



Logo Melody (Menu 1, 7)

To set the melody on or off when turning the power on/off.

1. Press Soft Key 1 Menu.
2. Press 1 Sound.
3. Press 7 Logo Melody.
4. Set **Off/On** with and then press Soft Key 1 Ok.



Alerts (Menu **1**, **8**)

Any of the four Alert options could be turned on or off.

1. Press Soft Key 1 **Menu**.

2. Press **1** **Sound**.

3. Press **8** **Alerts**.



► Check each option and turn it off if not desired.

1) Fade (Menu **1**, **8**, **1**)

Sets an alert to inform you when you have lost a call or services.

2) Minute (Menu **1**, **8**, **2**)

Alerts you 10 seconds before the end of every minute during a call.

3) Service (Menu **1**, **8**, **3**)

If on, alerts you when service changes.

When you enter a service area, the phone displays **Entering Service Area** message.

When you leave a service area, the phone displays **Leaving Service Area** message.

4) Call Connect (Menu **1**, **8**, **4**)

Alert tone notifies the user when the call is connected.

4. Choose among the options and press Soft Key 1 **Ok**.

5. Set **Off/On** with **23** and then press Soft Key 1 **Ok**.

Display (Menu **2**)

Backlight (Menu **2**, **1**)

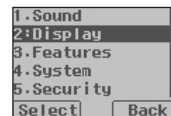
Choose the settings of the LCD and keypad backlight.

1. Press Soft Key 1 **Menu**.

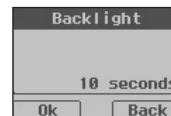
2. Press **2** **Display**.

3. Press **1** **Backlight**.

4. Choose an option and press Soft Key 1 **Ok**.



► **10 seconds** turns the backlight off 10 seconds after the last key was pressed.




► **30 seconds** turns the backlight off 30 seconds after the last key was pressed.

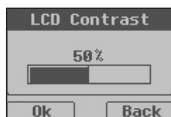
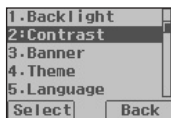
► **Always on** means that the backlight is always on.

► **Always off** means that the backlight is never on.

Contrast (Menu **2 abc**, **2 abc**)

Using the Navigation Key, select the contrast setting using the scale of lightest to darkest.

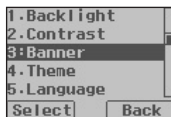
1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **2 abc** **Contrast**.
4. Adjust the contrast with .
5. Then press Soft Key 1 **Ok** to save the contrast setting.



Banner (Menu **2 abc**, **3 def**)


Enter the string of characters you want to be displayed (up to 16 characters.)

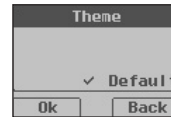
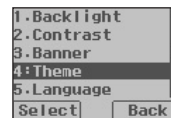
1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **3 def** **Banner**.
4. Enter a Banner name and then press Soft Key 1 **Option** and select **Save**.



Theme (Menu **2 abc**, **4 ghi**)

You can set up what is displayed on the LCD screen while in standby mode. (Default or Analog Clock)

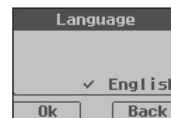
1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **4 ghi** **Theme**.
4. Use  to choose between **Default** and **Analog Clock** and then press Soft Key 1 **Ok**.



Language (Menu **2 abc**, **5 jkl**)

Set the menu language according to your preference, choose **English**, **French** or **Spanish**.

1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **5 jkl** **Language**.
4. Set **English/French/Spanish** with  and then press Soft Key 1 **Ok**.



Version (Menu **2 abc**, **6 mnc**)

View the software and PRL version.

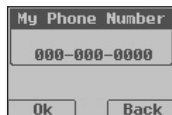
1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **6 mnc** **Version**.
4. Press Soft Key 1 **Ok**.



My Phone # (Menu **2 abc**, **7 pnn**)

The number will be displayed on the screen.

1. Press Soft Key 1 **Menu**.
2. Press **2 abc** **Display**.
3. Press **7 pnn** **My Phone #**.
4. Press Soft Key 1 **Ok**.



Features (Menu **3 def**)

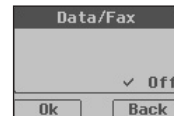
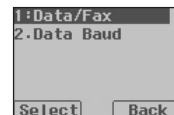
Data Setting (Menu **3 def**, **1 ●**)

Data/Fax (Menu **3 def**, **1 ●**, **1 ●**)

In **Data/Fax** setting, you can use your phone to transmit data and faxes.

Wireless data communication services refer to utilization of subscriber terminals for access to internet with personal computer or laptops at 19.2 Kbps or at maximum of 230.4 Kbps. Speed of connection depends on carrier's network and other variables. Contact communication information specifications must match network.

1. Press Soft Key 1 **Menu**.
2. Press **3 def** **Features**.
3. Press **1 ●** **Data Setting** and then **1 ●** **Data/Fax**.
4. Press Soft Key 1 **Ok**.
 - ▶ **Data In**: This setting enables the subscriber terminal to receive data calls.
 - ▶ **Fax In**: This setting enables the subscriber terminal to receive fax transmissions.

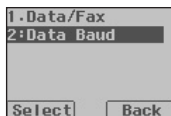


NOTE Data Connection Kit - Your wireless connection to the Internet and other dial-up networking functions. This Kit allows you to connect your PC or PDA to your LG wireless phone, freeing you from having to locate a telephone outlet. You can send or receive an e-mail, fax, or access the Internet anytime, anywhere.

Data Baud (Menu **3** , **1** , **2**)

This setting enables the subscriber terminal to set the data baud.

1. Press Soft Key 1 **Menu**.
2. Press **3** **Features**.
3. Press **1** **Data Setting** and press **2** **Data Baud**.
4. Select an option, press Soft Key 1 **Ok**.



- ▶ Data Baud set 19,200/115,200/230,400

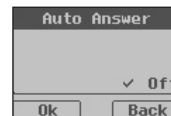
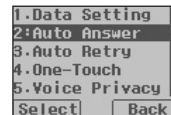
Data Baud needs to be set properly based on carrier's network. Contact carrier for the maximum available speed.

NOTE When using 1X HSPD data service by means of a RS-232C data cable, data baud should be set to 115,200. (230,400 is not supported). When using 1X HSPD data service by means of USB data cable, you may get better data speed if the data baud is set to 230,400 rather than 115,200.

Auto Answer (Menu **3** , **2**)

Select the number of rings before the phone automatically answers a call. This feature is used only with the car kit.

1. Press Soft Key 1 **Menu**.
2. Press **3** **Features** **2** **Auto Answer**.
3. Select an option and press Soft Key 1 **Ok**.

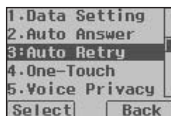


- ▶ Off
- ▶ Machine (or melody for 15 seconds)
- ▶ After 3 rings (or melody for 15 seconds)
- ▶ After 1 ring (or melody for 5 seconds)

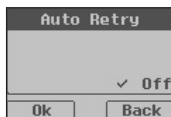
When you have an incoming call, the phone automatically responds after 1 ring/3 rings.

Auto Retry (Menu **3 def**, **3 def**)

Set the length of time the phone waits before automatically redialing a number when the attempted call fails.



1. Press Soft Key 1 **Menu**.
2. Press **3 def** **Features** **3 def** **Auto Retry**.
3. Select an option and press Soft Key 1 **Ok**.

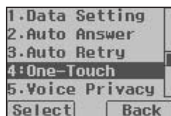


- ▶ Off/every 10 seconds/every 30 seconds/every 60 seconds

One-Touch (Menu **3 def**, **4 gnt**)

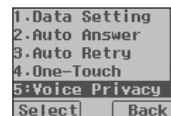
Enable/Disable one-touch dialing.

1. Press Soft Key 1 **Menu**.
2. Press **3 def** **Features**.
3. Press **4 gnt** **One-Touch**.
4. Select **Enable** or **Disable** and press Soft Key 1 **Ok**.

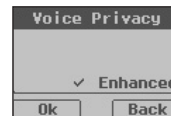


Voice Privacy (Menu **3 def**, **5 jlt**)

Set the voice privacy feature for CDMA calls as **Enhanced** or **Standard**. CDMA offers inherent voice privacy. Check with your service provider for availability of the enhanced voice privacy mode.



1. Press Soft Key 1 **Menu**.
2. Press **3 def** **Features**.
3. Press **5 jlt** **Voice Privacy**.
4. Select **Enhanced** or **Standard** and press Soft Key 1 **Ok**.



Audio AGC (Menu **3 def**, **6 mns**)

Enable/Disable the function of Audio AGC (Auto Gain Control) system.

This feature provides a better audio experience by enabling the Audio AGC system to control the dynamic range and volume of the sending and receiving voice across different levels of speaker and environments.



1. Press Soft Key 1 **Menu**.
2. Press **3 def** **Features**.
3. Press **6 mns** **Audio AGC**.
4. Select **Off** or **On** and press Soft Key 1 **Ok**.

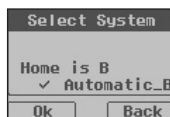
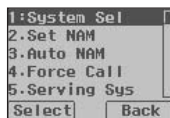
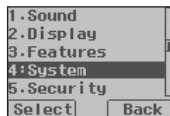
System (Menu **4 ghl**)

System Sel (Menu **4 ghl**, **1 ●**)

This function allows the user to change the Home System setting of the mobile phone. Leave this setting at its default, unless instructed otherwise by your service provider.

1. Press Soft Key 1 **Menu**.
2. Press **4 ghl** **System** and press **1 ●** **System Sel**.
3. Select an option and press Soft Key 1 **Ok**.

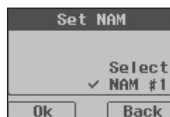
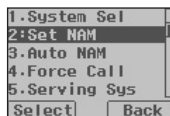
▶ Home is B (Automatic_B, Automatic_A, Home only) displays.



Set NAM (Menu **4 ghl**, **2 ●**)

Select the phone's NAM (Number Assignment Module) if the phone is registered with multiple service providers.

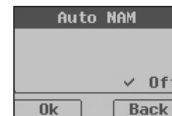
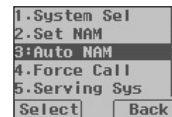
1. Press Soft Key 1 **Menu**.
2. Press **4 ghl** **System** and press **2 ●** **Set NAM**.
3. Select **NAM#1** or **NAM#2** and press Soft Key 1 **Ok**.



Auto NAM (Menu **4 ghl**, **3 del**)

Allows the phone to automatically switch between programmed telephone numbers corresponding to the service provider area.

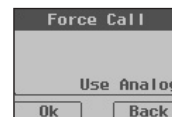
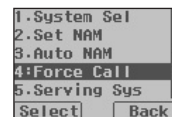
1. Press Soft Key 1 **Menu**.
2. Press **4 ghl** **System** and press **3 del** **Auto NAM**.
3. Select **Off** or **On** and press Soft Key 1 **Ok**.



Force Call (Menu **4 ghl**, **4 ghl**)

Allows the phone to make an analog call. You have 30 seconds to place the call. This feature is typically used for data applications.

1. Press Soft Key 1 **Menu**.
2. Press **4 ghl** **System** and press **4 ghl** **Force Call**.
3. Press Soft Key 1 **Ok**.

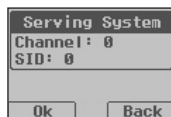
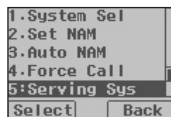


Serving Sys (Menu 4^{gh}, 5^{hl})

You can identify the channel number of System which is served and SID Number.

This information is only for technical support.

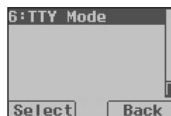
1. Press Soft Key 1 **Menu**.
2. Press 4^{gh} **System** and press 5^{hl} **Serving Sys**.
3. Press Soft Key 1 **Ok**.



TTY Mode (Menu 4^{gh}, 6^{mg})

Users can attach a TTY device and communicate with parties also using a TTY device. A phone with TTY support is able to translate typed characters to voice. Voice can also be translated into characters and then displayed on the TTY.

1. Press Soft Key 1 **Menu**.
2. Press 4^{gh} **System** and press 6^{mg} **TTY Mode**.
3. Select an option and press Soft Key 1 **Ok**.
 - ▶ TTY users must have a TTY/TDD device.



Security (Menu 5^{hl})

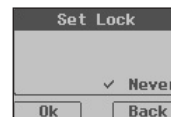
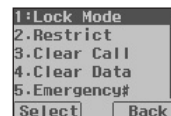
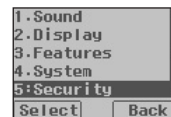
Lock Mode (Menu 5^{hl}, 1^o)

Keeps your phone from unauthorized use. Once the phone is locked, it is in restricted mode, until the lock code is entered. This will allow you to receive phone calls and still make emergency calls. The lock code is commonly the last 4 digits of your phone.

If you need to modify the lock code, you may modify it using the new lock code within the Security menu.


1. Press Soft Key 1 **Menu**.
2. Press 5^{hl} **Security**.
3. Enter the four-digit lock code.
4. Press 1^o **Lock Mode**.
5. Select an option and press Soft Key 1 **Ok**.

- ▶ **Never** means that the phone does not lock automatically (Lock Mode can be used).
- ▶ **On power up** means the phone is locked when it is turned on.
- ▶ **Always** means that the phone automatically locks after each use, requiring the lock code prior to making any calls (except for emergency number calls).



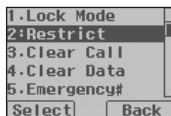
Restrict (Menu **5 jk**, **2 abc**)

To change your phones restrict mode.

1. Press Soft Key 1 **Menu**.
2. Press **5 jk** **Security**.
3. Enter the four-digit lock code.
4. Press **2 abc** **Restrict**.
5. Select Yes or No with  and then press Soft Key 1 **Ok**.

If you set it to **Yes** you can only place calls to emergency numbers and phone numbers stored in the memory locations.

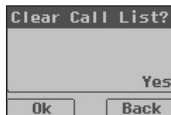
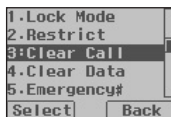
You can still receive calls in the restrict mode.



Clear Call (Menu **5 jk**, **3 def**)


Allows you to delete all the telephone numbers saved in **Call History**.

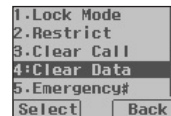
1. Press Soft Key 1 **Menu**.
2. Press **5 jk** **Security**.
3. Enter the four-digit lock code.
4. Press **3 def** **Clear Call**.
5. Use to select **Yes**.
6. Press Soft Key 1 **Ok**.



Clear Data (Menu **5 jk**, **4 ghi**)

Deletes all information saved in memory locations (001-199), schedule, and wake up. Be careful since any deleted information is not recoverable.



1. Press Soft Key 1 **Menu**.
2. Press **5 jk** **Security**.
3. Enter the four-digit lock code.
4. Press **4 ghi** **Clear Data**.
5. Using the  then select **Yes**.
6. Press Soft Key 1 **Ok**.

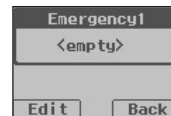
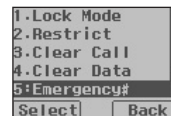


Emergency # (Menu **5 jk**, **5 jkl**)

You can call 3 emergency numbers, and 911, even when the phone is locked or restricted.

To enter 3 emergency numbers.

1. Press Soft Key 1 **Menu**.
2. Press **5 jk** **Security**.
3. Enter the four-digit lock code.
4. Press **5 jkl** **Emergency #**.
5. Select Emergency 1, 2, or 3, using  key.
6. Select **Edit** and enter an Emergency number.
7. Press Soft Key 1 **Save**.
8. Press .



New Lock Code (Menu **5** ju , **6** mo)

New Lock Code allows you to enter a new four-digit lock code number.

This is the same number as the pin code.

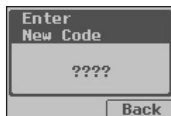
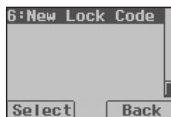
1. Press Soft Key 1 **Menu**.

2. Press **5** ju **Security**.

3. Then enter the four-digit lock code.

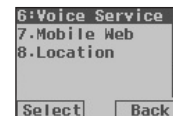
4. Press **6** mo **New Lock Code**.

5. For confirmation, it will ask you to enter the new lock code again.



Voice Service (Menu **6** mo)

Voice Service allows you to place a call by simply speaking a programmed word. It will also allow a caller to leave a voicemail if you are not available to answer your phone.



This feature is for the Hands-Free Kit only.

- Voice Dialing:

You can make a call by simply saying the programmed word.

- ▶ To record the voice command, press Voice Memo key in the Hands-Free Kit and record the voice command as per your preference.

- Voice Recording:

You can record a conversation over the phone.

- ▶ To record counterpart's voice, select Soft Key 1 + **5** ju during conversation.
- ▶ To stop recording, press Soft Key 1 + **5** ju again.

- Voice Memo Record:

Records a simple message while in Standby mode.

- Voice Memo Play:

Plays all voice memos recorded.

- Auto Answering Machine:

When you are not available to answer the incoming call, you may set your phone as auto answering machine and playback the recorded message later.

- Voice Setup



Sets entry mode for Voice Dialing mode.

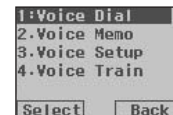
- Voice Train

Trains or untrains Yes/No control word.





Voice Dial (Menu ,)

You can make a call by simply saying the programmed word.

1. Press Soft 1 Key **Menu**.
2. Press  **Voice Service**.
3. Press  **Voice Dial**.
4. Press Soft Key 2 **Quit**.







Voice Memo (Menu ,)

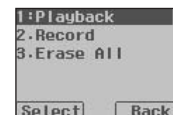
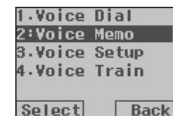
There are 2 options, Play and Record. In play mode, you will have the list of the recorded messages and you can hear all recorded messages by pressing  or   .

Deletes recorded voice and allows to view recording time and size.

In Record mode, you can record a simple message.

Playback (Menu , ,)

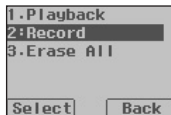
1. Press Soft Key 1 **Menu**.
2. Press  **Voice Service**.
3. Press  **Voice Memo**.
4. Press  **Playback**.
5. Set **Play/Erase/Detail** with  then press Soft Key 1 **Ok**.
 - ▶ **Play** Plays saved recording.
 - ▶ **Erase** Deletes saved recording.
 - ▶ **Detail** Displays recording time and size.



Record (Menu **6 mmo** , **2 abc** , **2 abc**)

Records a simple message.

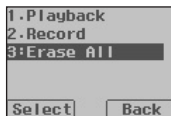
1. Press Soft Key 1 **Menu**.
2. Press **6 mmo** **Voice Service**.
3. Press **2 abc** **Voice Memo**.
4. Press **2 abc** **Record**.
5. Pressing any key while recording will show the following Menu.
6. Set **Review/Re-record/Save** with **END** then press Soft Key 1 **Ok**.
 - ▶ **Review** You can hear the recording.
 - ▶ **Re-record** You can record over the message.
 - ▶ **Save** Saves recorded messages.



Erase All (Menu **6 mmo** , **2 abc** , **3 def**)

Deletes all recorded messages.

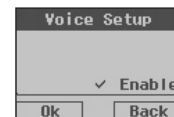
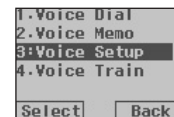
1. Press Soft Key 1 **Menu**.
2. Press **6 mmo** **Voice Service**.
3. Press **2 abc** **Voice Memo**.
4. Press **3 def** **Erase All**.
5. Press Soft Key 1 **Yes**.
6. Press **END**.



Voice Setup (Menu **6 mmo** , **3 def**)

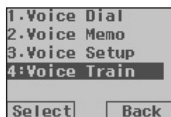
Select Voice Dialing mode.

1. Press Soft 1 **Menu**.
2. Press **6 mmo** **Voice Service**.
3. Press **3 def** **Voice Setup**.
4. Select **Enable** or **Disable** and press Soft Key 1 **Ok**.
 - ▶ **Enable** : Pressing the Voice Memo key will activate the Voice Dialing mode.
 - ▶ **Disable** : Selecting Start VR (in menu) will connect to Voice Dialing mode.



Voice Train (Menu **6 mmo**, **4 ghi**)

Yes and No are control words used in Incoming calls or Voice Dialing mode. Trains to better recognize the user's voice when using Yes/No commands.



Train Cmds (Menu **6 mmo**, **4 ghi**, **1 ●**)

Trains Yes and No.

1. Press Soft Key 1 **Menu**.
2. Press **6 mmo** **Voice Service**.
3. Press **4 ghi** **Voice Train**.
4. Press **1 ●** **Train Cmds**.

Untrain Cmds (Menu **6 mmo**, **4 ghi**, **2 abc**)

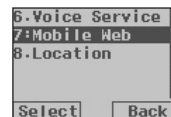
Untrains Yes and No.

1. Press Soft Key 1 **Menu**.
2. Press **6 mmo** **Voice Service**.
3. Press **4 ghi** **Voice Train**.
4. Press **2 abc** **Untrain Cmds**.

Mobile Web (Menu **7 part**)

The Wireless Web feature allows you to view internet content specially designed for mobile phone interface. Access and selections within this feature depend on each service provider.

For specific information on MiniBrowser access through your phone, refer to your service provider.



Overview


The MiniBrowser allows you to visit various internet websites directly phone. Using the MiniBrowser on the phone allows you to:

- ▶ Send and receive Internet e-mail.
- ▶ Browse and search the World Wide Web via web pages specially designed for cellular customers.
- ▶ Set bookmarks to directly access your favorite sites.
- ▶ Retrieve information such as stock quotes and flight schedules from the Internet.



Quality of Browser

Browsing the web via phone is not like using your home computer. Site providers have selected only the critical aspects of their site to present to wireless phone users, and have removed most graphics.

Accessing the Minibrowser






You can access the Minibrowser by pressing and holding  in the initial screen or by selecting it from the Main Menu screen.

Browser Start (Menu ,)

1. Press Soft key 1 **Menu**.
2. Press  **Mobile Web**.
3. Press  **Browser Start**.
4. Select Soft Key 1 **Yes** or Soft Key 2 **No**.
 - 1) A reminder of the charge will appear; press Soft Key 1 **Yes** to launch the Minibrowser if required.
 - 2) After a few seconds, you will see the Home Page.



Ending Minibrowser Session

You can end a Minibrowser session by pressing . If the prompt **To end** or **Both** option is set in the MiniBrowser Setup, you will be prompted whether you want to end the browser call. (Menu (, , ) Ending browser calls - Users can end a browser session by pressing and holding .

Navigating through the Browser



While using Minibrowser, you will find that on-screen items may be presented in one of the following ways:

- ▶ numbered options (some options may not be numbered)
- ▶ links (embedded in content)
- ▶ text or numeric input
- ▶ simple text


You can act on the options or the links by making use of Soft Keys. The Soft Keys are just below the display screen.

Navigation keys

Scrolling Up/Down by Item

You can use your  to scroll through the content if the current page does not fit into one screen. The currently selected item is indicated by a > cursor on the screen, and the  will also move the cursor.


Fast Scrolling Up/Down

Press and hold  to move the cursor up and down quickly on the current screen.



Go to Home Page

To go back to the Home Page, press and hold .


View Browser Menu

Press and hold  key to use browser menu when the MiniBrowser is being used.

Clearing out text/number entered

When entering text or numbers, press  to clear the last number, letter, or symbol. To completely clear the input field, press and hold .

Selecting and activating items using Soft Keys and/or digits

If the items on a page are numbered, you can use your keypad (number) keys or  to select an item, or you can select the items by moving the cursor and selecting the appropriate Soft Keys.

Soft Keys

To navigate to different screens or select special functions, use the Soft Keys. Soft Keys are just below the display screen. Note that the function associated with the Soft Keys can be changed on each page and depends on each highlighted item.

Soft Key 1

Soft Key 1 is used primarily for first options or selecting items but its function may change, depending on what content is displayed.


Soft Key 2

Soft Key 2 is used primarily for secondary options, or a menu of secondary options.

Entering Text, Numbers, or Symbols

When you are prompted to enter text, the current text entry method will appear in the upper right corner of the message box as T9En, Abc, 123, or a Symbol table appears (exact label depends on implementation.)

To change the input mode, use Soft Key 1.

If you need an upper case character, use . The current text method will appear as T9EN or ABC (shift does not affect 123 or Symbol).

 allows user to **shift** to input case sensitivity.

Initiating a phone call from Minibrowser


You may initiate a phone call from Minibrowser if the site you are using supports the feature, (the phone number may be highlighted and Soft Key 1 will appear as **Call**).

The browser connection will be terminated when you initiate the call. After you end the call, your phone will return to the screen from which you initiated the call.

Using Bookmarks

You can bookmark many individual pages for easy access at a later time. Bookmarks save you time by reducing the number of steps it takes to access a desired page.

To Create a Bookmark:


Go to the page that you want to mark. On the browser menu, select [Mark Site] or press and hold .

If the page has a title, it will be automatically used for the name of the bookmark. When Bookmark is saved, you can change the bookmark name. Selecting Save will save the name and add the page to your list of bookmarks.



A message will appear confirming that the bookmark was added to the list. Select Soft Key 1 **Ok** to return to the screen that you marked to resume navigation within Minibrowser.

The new bookmark is added to the bottom of your bookmark list.



Finding a Bookmark

From the Home Page, press and hold the number associated with the Bookmark in the list, or use  to scroll through the list and Soft Key 1 to select it.

Browser Start (Menu ,)

1. Press Soft key 1 **Menu**.
2. Press  **Mobile Web**.
3. Press  **Browser Start**.
4. Select Soft Key 1 **Yes** or Soft Key 2 **No**.

Browser Msg (Menu ,)

1. Press Soft key 1 **Menu**.
2. Press  **Mobile Web**.
3. Press  **Browser Msg**.
4. Select Soft Key 1 **Yes** or Soft Key 2 **No**.







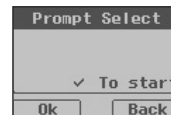
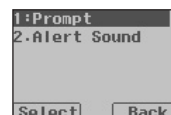
Browser Set (Menu ,)


User can set browser warnings.

Prompt (Menu , ,)

This feature can be set to prompt the user before launching and/or ending a browser session, since additional fees are charged when using the browser. This step is used to prevent accidental usage of the browser since all subscribers will have the browser feature.


1. Press Soft key 1 **Menu**.
2. Press  **Mobile Web**.
3. Press  **Browser Set**.
4. Press  **Prompt**.
5. Set **To start/Both/To end/None** with  then press Soft Key 1 **Ok**.

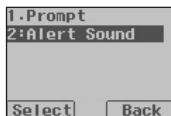


A message is also available to inform the users whether or not they want to exit the browser after they press . Users can disable the extra step (or enable if it is disabled) through a menu option. **To start, Both, To end and None.**

Alert Sound (Menu **7 pqr**, **3 def**, **2 abc**)


User can assign a browser alerting message sound.

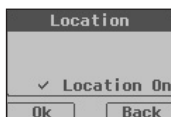
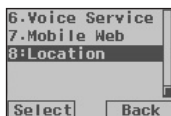
1. Press Soft key 1 **Menu**.
2. Press **7 pqr** **Mobile Web**.
3. Press **3 def** **Browser Set**.
4. Press **2 abc** **Alert Sound**.
5. Set **Mute/4 Alerts/2 Alerts** with  then press Soft Key 1 **Ok**.



Location (Menu **8 tuv**)

Menu for GPS mode.

1. Press Soft 1 Key **Menu**.
2. Press **8 tuv** **Location**.
3. Select **Location On** or **E911 Only** with  and then press Soft Key 1 **OK**.



- ▶ **Location On:** Prompts response at the request for LD(Location Determination) from network.
- ▶ **E911 Only:** Response prompted for LD request only at E911 status.

Chapter 4. PIM Features

Phone Book (PIM)

Find Entry (PIM ,)

To find phone numbers you have stored in the Phone Book.

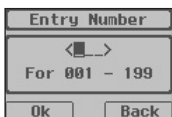
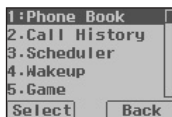
1. Press Soft Key 2 **PIM**.

2. Press  **Phone Book**.


3. Press  **Find Entry**.

4. The display prompts you to enter the entry number on the display screen.

5. If you press Soft Key 1 **Ok** without entering an entry, you will view a list of all entries in your phone book.



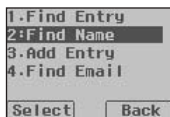
NOTE

At any entry, you may move to another entry by pressing the Up/Down()key. If you press Soft Key 1 **Option**, you can save and edit or erase.

Find Name (PIM 1st, 2nd)

To search for a phone number by name.

1. Press Soft Key 2 **PIM**.
2. Press 1st **Phone Book**.
3. Press 2nd **Find Name**.



4. Enter at least three letters of the name you are searching for. Then press Soft Key 1 **Option** and select Find. A list of matching names is displayed. If there is no matching name, the message **Not Found! Try Again...** is briefly displayed and the phone will return to the Find Name screen.

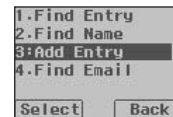


NOTE On the Find Name menu, you can change mode by pressing Soft Key 1. (T9En -> Abc -> 123 -> Symbol -> Help)

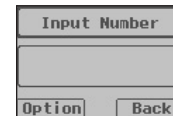
Add Entry (PIM 1st, 3rd)

You can save phone numbers, pager numbers and so on, up to 199 entries.

1. Press Soft Key 2 **PIM**.
2. Press 1st **Phone Book**.
3. Press 3rd **Add Entry**.



4. Enter the phone number, then press Soft Key 1 **Option** and select **Save**.





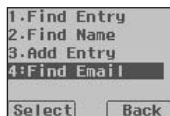
5. Select the memory location number (Enter by using when inputting the number).
6. Press Soft Key 1 **Next**.
7. Select the desired phone number type using .
8. Enter Name.
 - ▶ To enter an Email address, select **E-mail** from label, press to move to the available E-mail addresses.
9. You may select the desired **ID ring type** , **secret** / and voice recognition using (Select by using for each submenu).

NOTE Phone Type

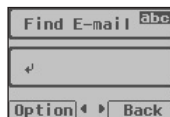
- Home Phone Number Entry
- Office Phone Number Entry
- Mobile Phone Number Entry
- Pager Number Entry
- Data/Fax Number Entry
- E-Mail Address entry

Find Email (PIM ,

1. Press Soft Key 2 **PIM**.
2. Press  **Phone Book**.
3. Press  **Find Email**.





4. Enter at least three letters of the E-mail address you are searching for. Then press Soft Key 1 **Option** and select Find. A list of matching addresses is displayed.



If there is no matching name, the message **Not Found! Try Again...** is briefly displayed and the phone will return to the Find E-mail screen.

▶ Select the item you want to view using .

5. After selecting the E-mail address to edit from the E-mail list, press Soft Key 1 **View** and the phone book entry will be displayed.
6. After selecting the E-mail label, press  to move to an available entry where you can edit or delete.
7. To save, press Soft Key 1 **Save** or press Soft Key 1 **Option** and Select **Save Entry** on the sub-menu.




▶ To delete an E-mail address: Move to the Phone book from either **Find Email** or **Find Entry**. After selecting the E-mail label, press  to move to the memory location, press Soft Key 2 **Clear** to delete the E-mail address and press Soft Key 1 **Save** to confirm.

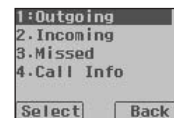
Call History (PIM

Allows you to view the 30 most recent phone calls. Once you exceed the 30-number storage limit, the oldest call history record is overwritten. These calls are divided into 3 types of calls.

Outgoing (PIM ,




Allows you to view a list of all outgoing calls, up to a maximum of 30 calls.

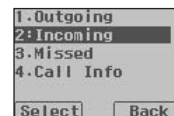
1. Press Soft Key 2 **PIM**.
2. Press  **Call History**.
3. Press  **Outgoing**.
4. You may place a call by pressing .



Incoming (PIM ,

Allows you to view a list of all incoming calls, up to a maximum of 30 calls.

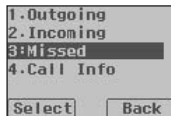
1. Press Soft Key 2 **PIM**.
2. Press  **Call History**.
3. Press  **Incoming**.
4. You may place a call by pressing .



Missed (PIM 2 abc, 3 del)

Allows you to view a list of all missed calls, up to a maximum of 30 calls.

1. Press Soft Key 2 **PIM**.
2. Press 2 abc **Call History**.
3. Press 3 del **Missed**.



4. You may place a call by pressing SEND .
Works only in a digital area and if phone is not restricted.

Recent Call History List

Allows you to view the 30 most recently dialed phone numbers. Speed dialing a number in the Call History List is available.

1. Press Soft Key 2 **PIM**.
2. Press 2 abc **Call History**.
3. Press 1 ● **Outgoing**.
4. Press 4 ghl to scroll through the last calls and scroll to the number you want to call.
5. Press SEND to place a call. Or to see the details of the call choose **View** from the Soft Key 1 **Option**. Press Soft Key 1 **Save** to save the number in a memory location. (If you need further information please refer to pages 31~32)
Press number key to prepend in view status. You can make an addition, if needed, to the beginning of the original number and press SEND .
6. To erase the call from the list, choose **Erase** from the Soft Key 1 **Option**.

Call Info (PIM 2 abc, 4 ghl)

1. Last Call (PIM 2 abc, 4 ghl, 1 ●)

Displays the duration of the last call made.



2. Home Calls (PIM 2 abc, 4 ghl, 2 abc)

Keeps a running count of the time spent making calls in your service area since the last reset. To reset the counter, press Soft Key 1 **Option**, select **Zero** using 4 ghl and then Soft Key 1 **Select**.



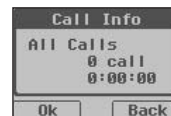
3. Roam Calls (PIM 2 abc, 4 ghl, 3 del)

Keeps a running count of the time spent making calls outside your service area. To reset the counter, press Soft Key 1 **Option**, select **Zero** using 4 ghl and then Soft Key 1 **Select**.



4. All Calls (PIM 2 abc, 4 ghl, 4 ghl)

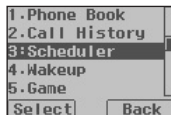
Keeps a running count of the time spent making all calls, either inside or outside your area. Resetting the call time is not available.



Scheduler (PIM)




Scheduler Functions

Scheduler keeps your agenda convenient and easy to access. Simply store your appointments and your phone alerts you with a reminder of your appointment. You can also take advantage of the **wake-up** feature.



NOTE If transmitting SMS or connecting UP during a call, at the preset time, it does not ring. After exiting, it will ring the reminder.



General Guidelines to Scheduler Access and Setting

1. The menu will appear when you press Soft Key 2 **PIM**.
2. Scroll through the menu list by using .
3. To make a selection, locate the entry on the menu and press Soft Key 1 **Select** or by pressing number on the menu.
4. Move between entries on the menu by using .
5. Press Soft Key 1 **Select** to make new entries and Soft Key 2 **Back** to exit without making new entries.
6. If you want to see the calendar, press  in standby mode.

How to use buttons

, ,  Moves cursor to the left

, ,  Moves cursor to the right

,  Moves to the previous week

,  Moves to the next week

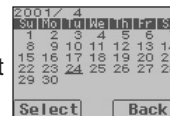
,  Moves to the previous year

,  Moves to the next year

,  Moves to the previous month

,  Moves to the next month







,  Moves to today

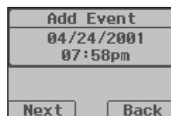
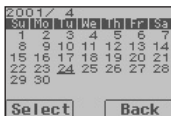


Add Event (PIM ,)

Allows you to input your schedule.



If you input the time and memo, an alarm rings at the set time.

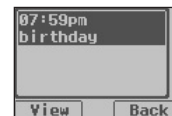
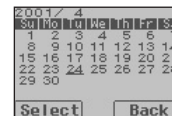
1. Press Soft Key 2 **PIM**.
2. Press  **Scheduler**.
3. Press  **Add Event**.
4. Select the date using your keypad (refer to page 87), then press Soft Key 1 **Select**.
5. Enter the time and date of the event using your keypad.
6. To toggle between AM and PM, select **am/pm** using ,  or .
7. Enter a title and press Soft Key 1 **Option** and Select **Save**.
8. Press .



View Daily (PIM ,)

Allows you to view all events of a selected date.

1. Press Soft Key 2 **PIM**.
2. Press  **Scheduler**.
3. Press  **View Daily**.
4. Select the date using your keypad (refer to page 87), then press Soft Key 1 **Select**.
5. Select the item and press Soft Key 1 **View**.
 - ▶ You will see a list of matches.
6. Press Soft Key 1 **Option**.
 - ▶ You may select either **Erase** or **Edit**.



View All (PIM ^{3 def}, ^{3 def})

Allows you to view all stored events.

1. Press Soft Key 2 **PIM**.

2. Press ^{3 def} **Scheduler**.

3. Press ^{3 def} **View All**.

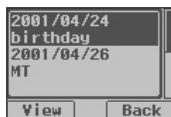
▶ All stored entries will appear.

4. Select the item and press Soft Key 1 **View**.

▶ You will see a list of matches.

5. Press Soft Key 1 **Option**.

▶ You may select either **Erase** or **Edit**.



Erase Old (PIM ^{3 def}, ^{5 jst})

Erases only the past Scheduler items.

1. Press Soft Key 2 **PIM**.

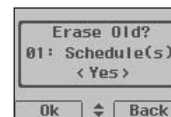
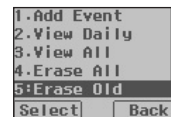
2. Press ^{3 def} **Scheduler**.

3. Press ^{5 jst} **Erase Old**.

▶ You are then prompted to **Erase Old**.

4. To delete information, scroll to **Yes** and press Soft Key 1 **Ok**.

▶ Past **Scheduler** items will be deleted.



Erase All (PIM ^{3 def}, ^{4 gnt})

Allows you to delete all items stored in the scheduler.

1. Press Soft Key 2 **PIM**.

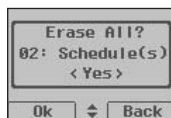
2. Press ^{3 def} **Scheduler**.

3. Press ^{4 gnt} **Erase All**.

▶ You are then prompted to **Erase All**.

4. To delete information, select **Yes** and press Soft Key 1 **Ok**.





▶ All items in Scheduler will be deleted.

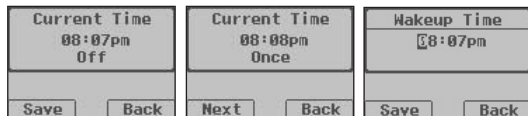
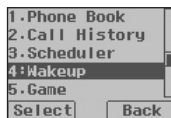


Wake up (PIM 4 gh)

Works only in digital area.

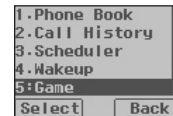
To change an event alarm time.

1. Press Soft Key 2 **PIM**.
2. Press 4 gh **Wake up**.
3. You can change the alarm mode using .
(Off/Daily/Once)
4. Press Soft Key 1 **Next**.
5. Set time for alarm and press Soft Key 1 **Save**.
 - ▶ The current time will be displayed on the upper portion of the screen.
6. You can move to the edit window using .
 - ▶ At alarm time, **Wake Up** will be displayed on the LCD screen and the alarm will sound.
 - ▶ Am/pm may be selected using the  or .
 - ▶ Ringing(or vibration, Vib1+Ring, Vib2+Ring, Vib3+Ring,Lamp) will stop when any key is pressed.
 - ▶ Ring volume is controlled by the setting in reception mode.



Game (PIM 5 jh)

You can get key information about playing a game if you press 5 jh after selecting Black Jack game or Mobile Hawk game.




Mobile Hawk (PIM 5 jh, 7 gh)

You control a Mobile Hawk helicopter. Your objective is to destroy the enemy's helicopters, tanks, and automobiles. If you attack ambulances, you lose 5 points for each. Clear each stage by destroying the building at the end of the stage.



To Play the Game

1. Press Soft Key 2 **PIM**.
2. Press 5 jh **Game**.
3. Choose game 7 gh **Mobile Hawk**.
4. For a new game, press 7 gh.
5. To start the game, press Soft Key 1 .

1. Keypad Configuration - Menu Screen

1 : Moves to the selected menu screen.

2 : Moves to Score screen.

3 : Moves to Keypad Configuration screen.

4 : Resumes the game if paused.

5 : Moves to the Game Selection screen.

6 : Ends the game.



2. When you see the game's logo on the screen, you can select from stage 1 to stage 10 by using 0 to 9 on the keypad. After selecting a stage, you begin gameplay by pressing Soft Key 1 **1**.



3. Keypad Configuration - Game Screen

1 : Moves Mobile Hawk one tile up. If you push and hold the button, Mobile Hawk keeps moving upwards.



4 : Moves Mobile Hawk one tile to the left. If you push and hold the button, Mobile Hawk keeps moving to the left.

5 : Moves Mobile Hawk one tile to the right. If you push and hold the button, Mobile Hawk keeps moving to the right.

6 : Fires air-to-air missile.

7 : Moves Mobile Hawk one tile down. If you push and hold the button, Mobile Hawk keeps moving downward.

9 : Fires air-to-ground missile.

8 : Moves Mobile Hawk one tile to the left.
















3 : Moves Mobile Hawk one tile to the right.

2 : Moves Mobile Hawk one tile up.

7 : Moves Mobile Hawk one tile down.

0 : Pauses the game.

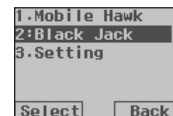
4. Score input screen

-  : 1 .
-  : 2 A B C
-  : 3 D E F
-  : 4 G H I
-  : 5 J K L
-  : 6 M N O
-  : 7 P Q R S
-  : 8 T U V
-  : 9 W X Y Z
-  : 0 @ , ! ? * / # \$ %
-  : Space
-  : Delete
-  : Ends the game
-  : Switches between lowercase and uppercase characters
-  : Input name completed







Black Jack (,)

Black Jack is a card game. The one whose cards add closest to 21 wins the hand. The player and the dealer get dealt two cards each. The player then chooses to receive another card (Hit) or play what he was dealt (Stay). You can get as many cards as you want, but the total value of the cards must not exceed 21. An (Ace) is valued at 1 or 11. J (Jack), Q (Queen) and K (King) are valued at 10. Two through Ten receive face value. If your first two cards are an A and a card valued at 10, you have a "Black Jack". The dealer then shouts out "Black Jack". If you get a Black Jack you win the hand, unless the dealer also has a Black Jack.



To play Black Jack

1. Press Soft Key 2 **PIM**.
2. Press  **Game**.
3. Choose game  **Black Jack**.
4. For a new game, press .
5. To start the game, press Soft Key 1 .

1. Keypad Configurations - Menu Screen

1 : Begins a new game.

2 : Moves to score screen.

3 : Moves to key configurations screen.

4 : Resumes the game if paused.

: Moves to game selection menu.

END : Ends the game.



2. Key Configurations - Game Logo Screen

: Pauses the game.

END : Ends the game.

: Moves to Betting screen.



3. Key Configurations - Betting Screen

4 : Decreases bet.

5 : Increases bet.

8 : Ends the game and moves to Input Name screen.

: Pauses the game.

END : Ends the game.

: Moves to Dealing Screen.



4. Keypad Configurations - Dealing Screen

: Pauses the game.

END : Ends the game.



5. Keypad Configurations - Game Screen

3 : HIT

6 : STAY

9 : DOUBLE (Appears only when you have two of the same card; such as 2 K's)

: Pauses the game

END : Ends the game



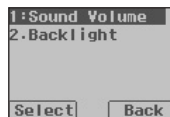
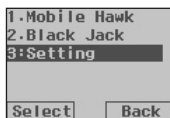
The rest are the same as the keypad configurations in Mobile Hawk.

Setting (PIM 5 jkl, 3 def)

You can set the volume of the game and backlight on or off.

To change your phone's setting when you play the game.

1. Press Soft Key 2 **PIM**.
2. Press 5 jkl **Game**.
3. Press 3 def **Setting**.
4. Use to choose the setting between 1 ● **Sound Volume** and 2 abc **Backlight**.



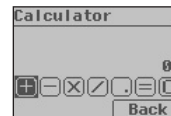
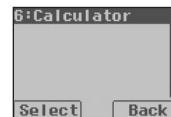
Calculator (PIM 6 mnc)

Calculate simple mathematical computations.

(Can enter numbers up to the second decimal place.)

1. Press 2 abc and 5 jkl in order.
2. Select (multiplication) using Ⓢ/.
3. Select using Soft Key 1 **Select**.
4. Press 1 ● and 0 nmt in order.
5. Select = using Ⓢ=.
6. Select using Soft Key 1 **Select**.



You will see the result of the calculation **250**.



NOTE Calculation should be 9 characters (for example, 123456789+10-...).

Valid result is 2147483647.99


Chapter 5. Message Features

Text message, page and voice mailbox become available as soon as the power is on. You can access the above types of messages using the Message Key . In addition, you can make a call to the call back number by pressing  during a message check.

The phone can store up to 30 messages (1 Voice message: 30 text messages) with 245 characters per message. Users may read and edit messages saved in the outbox during transmission and send them.

However, you should check whether your carrier provides the above features.

Character limits: The VX2000 supports up to 245 characters per message including header information. Limits to available characters per message may exist; please check with your service provider for system capabilities.


The information that is stored in the message is determined by phone mode and service capability. You can check types of messages by pressing the Message Key .

Types of Menu

- ▶ **Voice:** Shows the number of messages in voice mail.
- ▶ **Send Msg:** Sends a message.
- ▶ **Inbox:** Shows you the list of the received messages.
- ▶ **Outbox:** Shows the messages waiting to be sent.
- ▶ **Erase Msgs:** Deletes all stored messages.
- ▶ **Setting:** Selects alert type for new message(s).

New Message Alert

There are four ways your phone alerts you to new messages.

1. The phone displays the message on the display screen.
2. One of four ring types is heard if selected.
3. The red light blinks.
4. The message icon is displayed on the display screen . In case of an urgent message, the icon will flash and it displays as an **Urgent message**.

NOTE

If you receive the same message twice, your phone deletes the older one and the new one is stored as a **DUPLICATE**.

NOTE

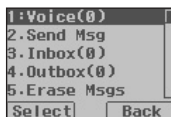
If Ring type is set to “Vibrate” or in Manner mode, the phone vibrates instead of ringing different message alerts.

If Ring type is selected to “Lamp”, “Ringer off” or in Silent mode, the lamp blinks instead of ringing different message alerts.

Messaging (📠)

Voice (📠, 📞)

Allows you to view the new voice messages recorded in the voice mail box. Once you exceed the storage limit, the old messages will be overwritten. When you have a new text message, your phone will alert you.



Checking your Voice Mail box

1. Press 📠.
2. Select 📞 **Voice**.
 - ▶ To delete information press Soft Key 1 **Option** and then select **Erase**.

While you are answering another call, if you have a new message, the call back number will be displayed on the screen.

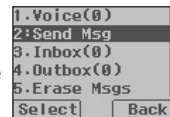
Out of Memory Warning

No more messages can be received until enough memory space becomes available.

At this time, the message **NOT ENOUGH MEMORY** will be displayed on the screen and any new message is not accepted.

Send Msg (📠, 📄)

Text messages, page messages, and e-mail transmissions are all available. If there is a message in the transmission, it is a text message.



When there is no message in the transmission, it is a page.

To send a message, enter a SMS phone number to **Send To 1**. Select **Continue** in **Option** menu and enter a message in the content entering stage. Press **Send** in **Option** to send the message.


To send e-mail, enter recipient's e-mail address.

Menu

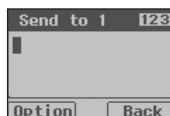
Send to 1: This feature allows multi-sending of up to 10 total addresses.

There are five optional menus of **Continue**, **Next Addr**, **Prev Addr**, **Book**, and **Back**.

1. Press .

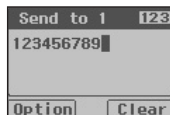
2. Select  **Send Msg.**

3. After entering the phone number or e-mail address of the recipients, press Soft Key 1 **Option**.



▶ **Continue** Use to save the current address.

▶ **Next Addr** Allows you to enter the next address.



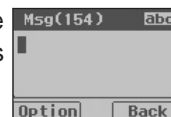
▶ **Prev Addr** Allows you to edit the previous address.



▶ **Book** Allows you to refer to the address in the phone book. By reading the phone number or e-mail address, you may save them as recipient numbers.

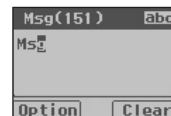
▶ **Back** Goes back to the previous page.

4. After entering a message to be sent by selecting **Continue**, press Soft Key 1 **Option**.



▶ **Send** Use to send the message.

▶ **Save** Use to save the sent address, call back number, user data, call timer.



▶ **Back** Goes back to previous page.



▶ **Option** Send, CB#, Priority, Deferred, Validity, and Delivery ACK are available options.

- **Send** With the changed parameters, send the message.

- **CB** Used to enter the call back number.

- **Priority** Allows you to give a priority to the message. **Normal** or **Urgent**.



- **Deferred** Allows you to delay sending the message until the programmed time frame.

Delaying time frame is as follows: Immediate, After 30 Minutes, After 1 Hour, After 2 Hours, After 12 Hours, After 1 Day and After 2 Days.

- Validity

Indicates the validity of message delivery to the Short Message Center (SMC) without being transmitted to the sending address for certain periods of time. Those messages will be deleted within the programmed time frame. Validity time frames are as follows: Default, 30 Minutes, 1 Hour, 2 Hours, 12 Hours, 1 Day and 2 Days.

- Delivery ACK

Allows you to be certain the message has gone through. When all fields are entered, press  to send the message. If you press  without a sending address, a warning message is displayed on the screen. When the message has gone through, a confirming message is displayed on the display screen. If the message has not gone through, the **No Call Back phone number received** message will be displayed on the screen.

► Canned

Up to 10 frequently used sentences are displayed. Users may add the sentences to a message just by reading canned sentences, not by entering from the keypad.

- 10 texts : Yes, No, Call me, Need Direct, Where are you?, Will call later, Busy, On my way, Will arrive 15 minutes, Thank you.

5. If you select **Send**, it notifies you that the message was sent successfully.




6. Then select Soft Key 2 **Quit**.
The screen goes back to standby mode after 3 seconds.
7. This option must be set up by the carrier.

Inbox (,)

Received text messages, page messages, and e-mail lists may be searched, and the contents may be viewed. Received messages are sorted in an order of urgent messages, unread messages and read messages.


To view the list of the received messages.


1. Press .

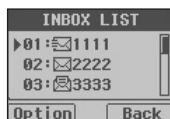
2. Select  **Inbox**.




- ▶ Messages are saved in order of **URGENT/NEW/OLD**. For example, if a NEW message is read it goes into OLD messages.

 : URGENT

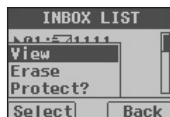
 : NEW

 : OLD



3. After selecting the desired message with  or  ; press Soft Key 1 **Option** and select **View**.

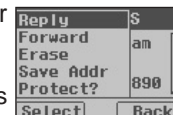
- ▶ **View** You can read the selected message.



- ▶ **Erase** Delete the selected message.

- ▶ **Protect?** Configure **Erase Protect** on the selected message. For the Protect configured message, messages may not be deleted by **Erase Inbox** and **Erase All** functions of **Erase Msgs** Menu.

4. Press Soft Key 1 **Option** after checking the message.



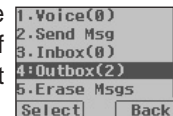
- ▶ **Reply** This function allows you to reply to this SMS or e-mail address. If the SMS has both an originating address and an e-mail address, the reply will only be sent to the e-mail address.
- ▶ **Forward** Forwards a received message to others. After recipients are entered, the messages can be forwarded.
- ▶ **Erase** Deletes the selected message from the Inbox.

► **Save Addr** Stores the callback number, e-mail address and user data number included in the received message into your phone book. When received number information is displayed, the user can store the number in the corresponding number list in the phone book. For an e-mail address, select the option new entry and old entry. The new e-mail address may overwrite an old address entry if necessary. For new entries, an e-mail address may be stored with the new memory number.

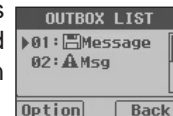
► **Protect?** Protects a message when deleting all other messages. There are two options disable and enable. When you select Protect?, a lock will be displayed in front of the protected message.

Outbox (,)








Up to 30 sent messages can be stored in the Outbox. Icons indicate if the messages were successfully sent to the message center.



Users may view lists and contents of sent messages in this menu and may also verify if the transmission was successful or not.



Displays the status of the messages recorded in the voice mailbox.

1. Press .
2. Select  **Outbox**.
3. After selecting the desired message with  or  ,  press Soft Key 1 **Option** . If you select the sent message () **Resend / View / Erase / Protect?** appears on the screen. If you select the saved message (), **Send / View / Erase / Protect?** appears on the screen.

- **Resend** Allows you to retransmit the selected message.
- **View** Shows the message currently saved. The view menu has three sub-menus Resend, Open and Erase.
 - **Resend** Used to retransmit the selected message.
 - **Open** Used to view the selected message.

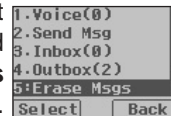
- **Erase** Used to delete the recorded message.
- ▶ **Erase** Delete a selected message in the Outbox.
- ▶ **Protect** Used to protect a message from being unintentionally deleted.

④ Status

- ▶ : Send - Messages saved in Short Message Center (SMC) have been transmitted.
- 📁 : Save - After message editing, it indicates that messages are only stored in the Outbox without being transmitted.
- ⚠ : Fail - Indicates a failed message transmission.
- ✓ : Delivery - Message has been delivered.
- ↶ : Cancel - After transmission to message center has occurred, messages that have not been delivered may be canceled by transmitting cancel message.
- ✉ : Multi-sending address - Indicates more than one designated recipient.
- 📡 : Pending - Transmission is unavailable in analog mode or in a no service area. Messages are pending transmission. Pending messages are transmitted automatically when digital mode becomes available.

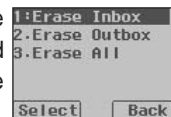
Erase Msgs (📁, 5 📁)

All the voice mailbox messages, text messages and pages are deleted when you select 5 📁 **Erase Msgs** from the Message Menu screen. Protected messages are not erased.



Erase Inbox (📁, 5 📁, 1 📁)

Read messages and all messages are divided and must be deleted separately. Protected messages are not deleted.



Erase Outbox (📁, 5 📁, 2 📁)

Allows you to delete all messages saved in the Outbox.

Erase All (📁, 5 📁, 3 📁)

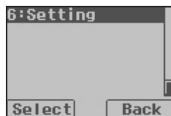
Allows you to delete all messages in the Outbox and the Inbox. Protected messages are not deleted.

Setting (📞, 6 min)

Alert, default CB# (call back number), Auto Save and Auto Delete may be configured for receiving new messages.

You are alerted in 3 ways when you receive a new message:

- By displaying a message on the screen.
- By sounding a beep or vibration.
- By the flashing of a lamp.



Alert (📞, 6 min, 1 ●)

Allows you to select the alert type for a new message. Alert types are **2 Alerts**, **Vibrate**, **Lamp**, and **4 Alerts**.

2Min Alert (📞, 6 min, 2 hr)

User may select 2-Min Alert for reminder in case a new message(s) is not opened.

Default CB# (📞, 6 min, 3 def)

By setting this configuration **ON**, a user may automatically set his/her phone number as a sender number without entering phone numbers for message transmission.

Enables your own phone number to be verified in the call back menu.

Auto Save (📞, 6 min, 4 gh)

With this feature on, messages are automatically saved in the Outbox when transmitted.

Auto Delete (📞, 6 min, 5 hr)

With this feature on, old messages are automatically deleted when you exceed the storage limit.

Chapter 6. Functions Used During a Call

Mute (During a call: MENU (1))

- Sometimes it may be necessary to mute a call. To use this function during a call, press Soft Key 1 **Menu** and (1).



- If you need to cancel the mute, press the Soft Key 1 **Menu** and (1).

Memo (During a call: MENU (2))

Allows you to save a phone number, while speaking to someone, without writing it down. The phone number entered is saved in the Outgoing Call History List.

Key Tone (During a call: MENU (3))

Set key beep length and touch tone playback speed.

- **Normal** Tone sounds for a fixed duration, no matter how long you press the key.
- **Long** Tone sounds continuously, as long as you press the key.

Voice Privacy (During a call: MENU (4))

Set the privacy feature for CDMA calls as **Enhanced** or **Standard**.

CDMA offers inherent voice privacy. Check with your service provider for availability of the enhanced voice privacy mode.

Recording (During a call: MENU (5))

Allows you to record the conversation over the phone. This operation toggles between **Enable** and **Disable**.

Location (During a call: MENU (6))

Menu for GPS mode.

Select Location On or E911 Only.

Phone Book (During a call: PIM (1))

Allows you to check, store and delete a telephone number stored in the phone book while calling.

Call History (During a call: PIM (2))

Allows you to check call history while calling.

Chapter 7. Accessories

There are a variety of accessories available for your mobile phone. You can select these options according to your personal communication requirements. Consult your local dealer for availability.

Travel Charger

This charger, model TC-30W, allows you to charge the battery. It supports standard U.S. 120 Vac, 60 Hz outlets. An orange light indicates that it is charging, a green light indicates charging is complete. It takes 5 hours to charge a completely discharged battery.



Battery

Standard battery (LGLi-ABGM) and Extended battery (LGLi-ABGL) are available.

Cigarette Lighter Charger

You can operate the phone and trickle charge the phone's battery from your vehicle by using the cigarette lighter charger, model CLC-30W. It takes 5 hours to charge a completely discharged battery.



Hands-Free Car Kit (Portable)

The hands-free car kit, model PHF-32W, enables you to attach the phone to the car providing you with hands-free operation. It will also charge a completely discharged battery in 5 hours.



Data Cable Kit

Connects your phone to your PC. (Model KW- α)



Headset

Connects to your phone, allowing hands-free operation. Includes earpiece, microphone, and integrated call answer/termination button. (Model Headset 1000)



USB Converter Cable

Connects your phone to your PC. (Model LG-USB 4000)



AC Adaptor (SR-0550U)



Chapter 8. Appendix

Menu Tree

Press Soft Key **1 Menu**. Press  to scroll.

Sound

1. Ring Sound
2. Ring Type
- ▶ Ring
- ▶ Vibrate
- ▶ Vlb1 + Ring
- ▶ Vlb2 + Ring
- ▶ Vlb 3+ Ring
- ▶ Lamp
3. Ring Volume
4. Key Tone
- ▶ Normal
- ▶ Long
5. Key Volume
6. Ear Volume
7. Logo Melody
8. Alerts
- ▶ Fade
- ▶ Minute
- ▶ Service
- ▶ Call Connect

Display

1. Backlight
- ▶ 10 seconds
- ▶ Always off
- ▶ Always on
- ▶ 30 seconds
2. Contrast
3. Banner
4. Theme
- ▶ Analog Clock

Features

1. Data Setting
- Data/Fax
- ▶ Off
- ▶ Data In
- ▶ Fax In
- Data Baud
- ▶ 115,200
- ▶ 230,400
- ▶ 19,200
2. Auto Answer
- ▶ Off
- ▶ Machine
- ▶ after 3 rings
- ▶ after 1 ring
3. Auto Retry
- ▶ Off
- ▶ every 60 seconds
- ▶ every 30 seconds
- ▶ every 10 seconds

System

1. System Sel
- ▶ Automatic_B
- ▶ Automatic_A
- ▶ Home only
2. Set NAM
3. Auto NAM
- ▶ Off
- ▶ On
4. Force Call
- ▶ Use Analog
5. Serving Sys
6. TTY Mode
- ▶ Disable
- ▶ Enable

Security

1. Lock Mode
- ▶ Never
- ▶ Always

Voice Service

- ▶ On power up
2. Restrict
3. Clear Call
4. Clear Data
5. Emergency #
6. New Lock Code

1. Voice Dial
2. Voice Memo
- ▶ Playback
- ▶ Record
- ▶ Erase All
3. Voice Setup
4. Voice Train
- ▶ Train Cmds
- ▶ Untrain Cmds

Call History

1. Outgoing
2. Incoming
3. Missed
4. Call Info
- ▶ Last Call
- ▶ Home Calls
- ▶ Roam Calls
- ▶ All Calls

Calculator

1. Calculator

Setting

1. Alert
2. 2 Min Alert
3. Default CB#
4. Auto Save
5. Auto Delete

Press Soft Key **2 PIN**. Press  to scroll.

Press  to scroll.

Phone Book

1. Find Entry
2. Find Name
3. Add Entry
4. Find Email

Wakeup

1. Wakeup

Game

1. Mobile Hawk
2. Black Jack
3. Setting

Outbox

1. Erase Inbox
2. Erase Outbox
3. Erase All

Messaging

Voice

Send Msg

Inbox

1. Add Event
2. View Daily
3. View All
4. Erase All
5. Erase Old

Scheduler

1. Browser Start
2. Browser Msg
3. Browser Set
- ▶ Prompt
- ▶ Alert Sound

Mobile Web

1. Lock Mode
- ▶ Never
- ▶ Always

Location

1. E911 Only
- ▶ Location On

Chapter 9. Safety Guidelines

TIA Safety Information

Provided herein is the complete TIA Safety Information for Wireless Handheld phones. Inclusion of the text covering Pacemakers, Hearing Aids, and Other Medical Devices is required in the owner's manual for CTIA Certification. Use of the remaining TIA language is encouraged when appropriate.

Exposure To Radio Frequency Signal

Your wireless handheld portable telephone is a low power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

In August, 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless phones. Those guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

ANSI C95.1 (1992) *
NCRP Report 86 (1986)
ICNIRP (1996)

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1).

The design of your phone complies with the FCC guidelines (and those standards).

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone, void your warranty, and may violate FCC regulations.

Phone Operation

NORMAL POSITION: Hold the phone as you would any other telephone with the antenna pointed up and over your shoulder.

TIPS ON EFFICIENT OPERATION:

- For your phone to operate most efficiently:
- Extend your antenna fully.

Do not touch the antenna unnecessarily when the phone is in use. Contact with the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed.

- ★ American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

Driving

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them. Also, if using your phone while driving, please:

- Give full attention to driving -- driving safely is your first responsibility;
- Use hands-free operation, if available;
- Pull off the road and park before making or answering a call if driving conditions so require.

Electronic Devices

Most modern electronic equipment is shielded from RF signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless phone.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six (6") inches be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON;
- Should not carry the phone in a breast pocket
- Should use the ear opposite the pacemaker to minimize the potential for interference
- If you have any reason to suspect that interference is taking place, turn your phone OFF immediately.

Hearing Aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider [or call the customer service line to discuss alternatives.] Optional for each phone manufacturer.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle.

You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

Turn your phone OFF in any facility where posted notices so require.

Aircraft

FCC regulations prohibit using your phone while in the air. Switch OFF your phone before boarding an aircraft.

Blasting Areas

To avoid interfering with blasting operations, turn your phone OFF when in a “blasting area” or in areas posted: “Turn off two-way radio”. Obey all signs and instructions.

Potentially Explosive Atmospheres

Turn your phone OFF when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always marked clearly. Potential areas may include: fueling areas (such as gasoline stations); below deck on boats; fuel or chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles (such as grain, dust, or metal powders); and any other area where you would normally be advised to turn off your vehicle engine.

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. DO NOT place objects, including either installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

FDA Consumer Update



The U.S. Food and Drug Administration's Center for Devices and Radiological Health Consumer Update on Mobile Phones.

1. Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of radiofrequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

2. What is the FDA's role concerning the safety of wireless phones?

Under the law, the FDA does not review the safety of radiation-emitting consumer products such as wireless phones before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless phones are shown to emit radiofrequency energy (RF) at a level that is hazardous to the user. In such a case, the FDA could require the manufacturers of wireless phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions, the FDA has urged the wireless phone industry to take a number of steps, including the following:

- Support needed research into possible biological effects of RF of the type emitted by wireless phones;
- Design wireless phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- Cooperate in providing users of wireless phones with the best possible information on possible effects of wireless phone use on human health.

The FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of RF safety to ensure coordinated efforts at the federal level. The following agencies belong to this working group:

- National Institute for Occupational Safety and Health
- Environmental Protection Agency
- Federal Communications Commission
- Occupational Safety and Health Administration
- National Telecommunications and Information Administration

The National Institutes of Health participates in some interagency working group activities, as well.

The FDA shares regulatory responsibilities for wireless phones with the Federal Communications Commission (FCC). All phones that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. The FCC relies on the FDA and other health agencies for safety questions about wireless phones.

The FCC also regulates the base stations that the wireless phone networks rely upon. While these base stations operate at higher power than do the wireless phones themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the subject of the safety questions discussed in this document.

3. What kinds of phones are the subject of this update?

The term “wireless phone” refers here to hand-held wireless phones with built-in antennas, often called “cell,” “mobile,” or “PCS” phones. These types of wireless phones can expose the user to measurable radiofrequency energy (RF) because of the short distance between the phone and the user’s head.

These RF exposures are limited by Federal Communications Commission safety guidelines that were developed with the advice of the FDA and other federal health and safety agencies. When the phone is located at greater distances from the user, the exposure to RF is drastically lower because a person’s RF exposure decreases rapidly with increasing distance from the source. The so-called “cordless phones,” which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures far below FCC safety limits.

4. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radiofrequency energy (RF) exposures characteristic of wireless phones have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless phones, so we don’t know with certainty what the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

5. What research is needed to decide whether RF exposure from wireless phones poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but 10 or more years’ follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

6. What is the FDA doing to find out more about the possible health effects of wireless phone RF?

The FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to radiofrequency energy (RF).

The FDA has been a leading participant in the World Health Organization International Electromagnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The Project has also helped develop a series of public information documents on EMF issues.

The FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. The FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

7. How can I find out how much radiofrequency energy exposure I can get by using my wireless phone?

All phones sold in the United States must comply with Federal Communications Commission (FCC) guidelines that limit radiofrequency energy (RF) exposures. The FCC established these guidelines in consultation with the FDA and the other federal health and safety agencies. The FCC limit for RF exposure from wireless telephones is set at a Specific Absorption Rate (SAR) of 1.6 watts per kilogram (1.6 W/kg). The FCC limit is consistent with the safety standards developed by the Institute of Electrical and Electronic Engineering (IEEE) and the National Council on Radiation Protection and Measurement. The exposure limit takes into consideration the body's ability to remove heat from the tissues that absorb energy from the wireless phone and is set well below levels known to have effects. Manufacturers of wireless phones must report the RF exposure level for each model of phone to the FCC. The FCC website (<http://www.fcc.gov/oet/rfsafety>) gives directions for locating the FCC identification number on your phone so you can find your phone's RF exposure level in the online listing.

8. What has the FDA done to measure the radiofrequency energy coming from wireless phones?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the radiofrequency energy (RF) exposure from wireless phones and other wireless handsets with the participation and leadership of FDA scientists and engineers. The standard, "Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques," sets forth the first consistent test methodology for measuring the rate at which RF is deposited in the heads of wireless phone users. The test method uses a tissue-simulating model of the human head. Standardized SAR test methodology is expected to greatly improve the consistency of measurements made at different laboratories on the same phone. SAR is the measurement of the amount of energy absorbed in tissue, either by the whole body or a small part of the body. It is measured in watts/kg (or milliwatts/g) of matter. This measurement is used to determine whether a wireless phone complies with safety guidelines.

9. What steps can I take to reduce my exposure to radiofrequency energy from my wireless phone?

If there is a risk from these products—and at this point we do not know that there is—it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to radiofrequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure.

- If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna

Again, the scientific data do not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

10. What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to radiofrequency energy (RF), the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone use and increasing the distance between the user and the RF source will reduce RF exposure.

Some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

11. What about wireless phone interference with medical equipment?

Radiofrequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, the FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical instrumentation (AAMI). The final draft, a joint effort by the FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI.

The FDA has tested hearing aids for interference from handheld wireless phones and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless phones so that no interference occurs when a person uses a “compatible” phone and a “compatible” hearing aid at the same time. This standard was approved by the IEEE in 2000.

The FDA continues to monitor the use of wireless phones for possible interactions with other medical devices. Should harmful interference be found to occur, the FDA will conduct testing to assess the interference and work to resolve the problem.

12. Where can I find additional information?

For additional information, please refer to the following resources:

- FDA web page on wireless phones (<http://www.fda.gov/cdrh/phones/index.html>)
- Federal Communications Commission (FCC) RF Safety Program (<http://www.fcc.gov/oet/rfsafety>)
- International Commission on Non-Ionizing Radiation Protection (<http://www.icnirp.de>)
- World Health Organization (WHO) International EMF Project (<http://www.who.int/emf>)
- National Radiological Protection Board (UK) (<http://www.nrpb.org.uk/>)

Consumer Information on SAR (Specific Absorption Rate)

This Model Phone Meets the Government's Requirements for Exposure to Radio Waves.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. * Tests for SAR are conducted using standard operating positions specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. Because the phone is designed to operate at multiple power levels to use only the power required to

reach the network, in general, the closer you are to a wireless base station antenna, the lower the power output.

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the ear is 1.28W/kg and when worn on the body, as described in this user guide, is 0.90W/kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF emission guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on FCC ID BEJ TM240.

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) website at <http://www.wow-com.com>.

* In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements.

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